

20020722.qrp v02_n624.qrl.20020722

Date: Mon, 22 Jul 2002 19:03:11 EDT
From: qrp-l@Lehigh.EDU
To: "Low Power Amateur Radio Discussion" <qrp-l@Lehigh.EDU>
Subject: QRP-L digest 2624

QRP-L Digest 2624

Topics covered in this issue include:

- 1) [130324] RE: Kenwood TS-50
by Conrad Weiss <radman@best.com>
- 2) [130325] Re: Contest: CQC Goldrush
by Jim Larsen - AL7FS <AL7FS@arrl.net>
- 3) [130326] N3BJ Fox Final Log
by "N3BJ" <N3BJ@hotmail.com>
- 4) [130327] Re: Contest: CQC Goldrush - K7RE
by "John Huffman" <hjohnc@core.com>
- 5) [130328] Re: Tuner basics
by W2AGN <w2agn@w2agn.net>
- 6) [130329] Colorado Goldrush K0FRP
by "Al Dawkins" <alk0frp@attbi.com>
- 7) [130330] RE: 24 hr, UTC, WWVB Clock at Wal-Mart for \$12.56
by Steven Weber <kd1jv@moose.ncia.net>
- 8) [130331] Propagation, or lack there of
by Steven Weber <kd1jv@moose.ncia.net>
- 9) [130332] RE: 24 hr, UTC, WWVB Clock at Wal-Mart for \$12.56
by David Hinerman <WD8CIV@worldnet.att.net>
- 10) [130333] Re: Clear the air
by John Farler <jfarler@peoplepc.com>
- 11) [130334] Re: Kenwood TS-50
by "Steve McDonald" <jsm@gulfislands.com>
- 12) [130335] An SST-15?
by wkhibbert@juno.com
- 13) [130336] Re: 24 hr, UTC, WWVB Clock at Wal-Mart for \$12.56
by "Mike Yetsko" <myetsko@insydesw.com>
- 14) [130337] RE: Clear the air: Conjugate Primer
by Nick Kennedy <nkennedy@tcainternet.com>
- 15) [130338] re: Kenwood TS-50
by Michael Babineau <michael.babineau@sympatico.ca>
- 16) [130339] Ten Tec Argosy II
by Bill Urie <burie@linknet.krl.org>
- 17) [130340] RE: Kenwood TS-50
by "Randall" <Firefox67501@cox.net>
- 18) [130341] RE: 24 hr, UTC, WWVB Clock at Wal-Mart for \$12.56
by "Karl F. Larsen" <k5di@zianet.com>
- 19) [130342] RE: Clear the air: Conjugate Primer

- by "Karl F. Larsen" <k5di@zianet.com>
- 20) [130343] Re: 1:1 Balun at input of tuner - IT WORKS !
by John Seboldt <k0jd-l@seboldt.net>
- 21) [130344] Re: 1:1 Balun at input of tuner - IT WORKS !
by Bill Coleman <aa4lr@arrl.net>
- 22) [130345] RE: Clear the air: Conjugate Primer
by "Karl F. Larsen" <k5di@zianet.com>
- 23) [130346] Re: Clear the air: Conjugate Primer
by "George, W5YR" <w5yr@att.net>
- 24) [130347] Fox Log K0FRP
by "Al Dawkins" <alk0frp@attbi.com>
- 25) [130348] Re: Radial Lengths (long, was dipping traps)
by Bill Coleman <aa4lr@arrl.net>
- 26) [130349] Re: Radial Lengths (long, was dipping traps)
by Bill Coleman <aa4lr@arrl.net>
- 27) [130350] RE: Clear the air: Conjugate Primer
by Bill Coleman <aa4lr@arrl.net>
- 28) [130351] Re: Clear the air: Conjugate Primer
by "George, W5YR" <w5yr@att.net>
- 29) [130352] Fwd: Re: Conjugate matching
by Ade Weiss W0RSP <adeweiss@sd.value.net>
- 30) [130353] Re: Conjugate matching
by Ade Weiss W0RSP <adeweiss@sd.value.net>
- 31) [130354] Re: Ham shops in the Fort Worth area
by "Kevin M., KC8SFJ" <adverseyaw@twmi.rr.com>
- 32) [130355] Re: Gastronomic oddities
by Dave Richards <wr3i@earthlink.net>
- 33) [130356] 24 HR WWVB clock not holding UTC time
by "WI8W" <wi8w@arrl.net>
- 34) [130357] Re: Ham shops in the Fort Worth area
by "Steve Yates - AA5TB" <aa5tb@arrl.net>
- 35) [130358] Re: Clear the air: Conjugate Primer
by "Karl F. Larsen" <k5di@zianet.com>
- 36) [130359] 24hr WWVB Clock and Wal-Mart
by Kenneth Hoglund <hoglund@wfu.edu>
- 37) [130360] How does reflected power work
by "Karl F. Larsen" <k5di@zianet.com>
- 38) [130361] Re: 24 HR WWVB clock not holding UTC time
by "Karl F. Larsen" <k5di@zianet.com>
- 39) [130362] RE: [QRPP-I] Micro-80 kits
by "KELL, TED (JSC-MV) (LM)" <ted.kell1@jsc.nasa.gov>
- 40) [130363] Re: 24 HR WWVB clock not holding UTC time
by "Steve Lawrence" <Steve.Lawrence@itwfeg.com>
- 41) [130364] [OT] Yaesu Rotor Quit
by Chuck Carpenter <w5usj@9plus.net>
- 42) [130365] Re: How does reflected power work
by W2AGN <w2agn@w2agn.net>
- 43) [130366] Re: 24hr WWVB Clock and Wal-Mart

by Thom LaCosta <baltimoremd@baltimoremd.com>
44) [130367] Re: Clear the air: Conjugate Primer
by Ray Sills <raysills@1stconnect.com>
45) [130368] Re: Clear the air: Conjugate Primer
by Bill Coleman <aa4lr@arrl.net>
46) [130369] Re: Conjugate matching
by Bill Coleman <aa4lr@arrl.net>
47) [130370] Re: Wal-Mart "Radio Grill"
by Thom LaCosta <baltimoremd@baltimoremd.com>
48) [130371] RE: 24 HR WWVB clock not holding UTC time
by Karl Kanalz <kkanalz@gcecisp.com>
49) [130372] Tuner related losses are h u g e - some OM prefer a moderate SWR
by "Chris Wagner" <mm1esg@compuserve.de>
50) [130373] Matching vs Kibitzing
by "ss lyon" <sslyon@megalink.net>
51) [130374] Re: How does reflected power work
by Bill Coleman <aa4lr@arrl.net>
52) [130375] Re: How does reflected power work
by Bill Coleman <aa4lr@arrl.net>
53) [130376] Info on new PLL kit
by "w8diz" <w8diz@fpqrp.com>
54) [130377] Re: [fpqrp] Info on new PLL kit
by "brian" <brian@iquest.net>
55) [130378] Re: Clear the air: Conjugate Primer
by "George, W5YR" <w5yr@att.net>
56) [130379] Re: Clear the air: Conjugate Primer
by Bill Coleman <aa4lr@arrl.net>
57) [130380] Re: Clear the air: Conjugate Primer
by "George, W5YR" <w5yr@att.net>
58) [130381] Re: Clear the air: Conjugate Primer
by "George, W5YR" <w5yr@att.net>
59) [130382] Re: [QRPP-I] Micro-80 kits, Re: I.Q.S.F. (MDMW Club) {Long :^}
by George Gingell <k3tks@u1.abs.net>
60) [130383] Re: Linear amp biasing?
by Steven Weber <kd1jv@moose.ncia.net>
61) [130384] Re: How does reflected power work
by Steven Weber <kd1jv@moose.ncia.net>
62) [130385] Re: 24 HR WWVB clock not holding UTC time
by "Bob Tellefsen" <n6wg@earthlink.net>
63) [130386] Re: [QRPP-I] Micro-80 kits Re: K3TKS U.S. Sales Manager
by George Gingell <k3tks@u1.abs.net>
64) [130387] Re: How does reflected power work
by Bill Coleman <aa4lr@arrl.net>
65) [130388] Re: Matching vs Kibitzing
by William R Colbert <w5xe@juno.com>
66) [130389] wanted things
by "kw3u@warwick.net" <kw3u@warwick.net>
67) [130390] Re: Camping report from Pyramid Lake...(long)

by "Walt Amos" <k8cv@netzero.net>
68) [130391] CQ East coast!
by "Juanjo Pastor" <ec5aca@wanadoo.es>
69) [130392] 24 HR WWVB clock
by "Bill Coady" <N9LAE@amsat.org>
70) [130393] homebrew audio xfmr?
by David Hinerman <WD8CIV@worldnet.att.net>
71) [130394] Re: Camping report from Pyramid Lake...(long)
by "Trevor Jacobs" <kg6cyn@earthlink.net>
72) [130395] Re: homebrew audio xfmr?
by "George, W5YR" <w5yr@att.net>
73) [130396] A little story...or QRP fun!
by Bruce Rattray <rattray@gpfn.sk.ca>
74) [130397] Re: How does reflected power work
by W2AGN <w2agn@w2agn.net>
75) [130398] CAJUN VIEW ON CONJUGATE MATCHING
by hamjoel@juno.com
76) [130399] diode 1K60 cross is 1N34
by "Stuart Rohre" <rohre@arlut.utexas.edu>
77) [130400] SW-40+ /marker generator Question
by "Tom" <kf4yyd@adelphia.net>
78) [130401] Re: homebrew audio xfmr?
by "Leon Heller" <leon_heller@hotmail.com>
79) [130402] Re: How does reflected power work
by Bill Coleman <aa4lr@arrl.net>
80) [130403] RE: homebrew audio xfmr?
by Conrad Weiss <radman@best.com>
81) [130404] Re: How does reflected power work
by W2AGN <w2agn@w2agn.net>
82) [130405] Re: Kenwood TS-50
by Larry Cahoon <lejek@erols.com>
83) [130406] RE: reproducible conjugate results, PART 99.5 (now even longer)
by Bill Coleman <aa4lr@arrl.net>
84) [130407] Re: reproducible conjugate results, PART 99.5 (now even longer)
by "George, W5YR" <w5yr@att.net>
85) [130408] Re: The Answer
by Bill Coleman <aa4lr@arrl.net>
86) [130409] STANDING WAVES
by hamjoel@juno.com
87) [130410] Re: Tuner basics
by Bill Coleman <aa4lr@arrl.net>
88) [130411] Re: How does reflected power work
by Bill Coleman <aa4lr@arrl.net>
89) [130412] Tuner measurements
by "Karl F. Larsen" <k5di@zianet.com>
90) [130413] Re: How does reflected power work
by W2AGN <w2agn@w2agn.net>
91) [130414] Re: Tuner measurements

- by W2AGN <w2agn@w2agn.net>
- 92) [130415] Re: Kenwood TS-50
by "Steve McDonald" <jsm@gulfislands.com>
- 93) [130416] FS Unbuilt Epiphyte 3 -- 75-meter SSB Transceiver Kit
by "Brice D. Hornback" <bdh@cyberbound.net>
- 94) [130417] Two 624 Kits VFOs for sale
by "Hudson, Steve (RBI-US CMD)" <sdhudson@reedbusiness.com>
- 95) [130418] RE: How does reflected power work?
by tomb@kiva.net (Thomas H. Busch)
- 96) [130419] K2 Logging Program for the Palm
by Pat Cain <pcain@ix.netcom.com>
- 97) [130420] Rock-Mites Down Under
by <glentorr@ozemail.com.au>
- 98) [130421] SOLD: Unbuilt Epiphyte 3 -- 75-meter SSB Transceiver Kit
by "Brice D. Hornback" <bdh@cyberbound.net>

Date: Sun, 21 Jul 2002 16:23:13 -0700
From: Conrad Weiss <radman@best.com>
To: "'Fghester@aol.com'" <Fghester@aol.com>,
Low Power Amateur Radio Discussion <qrp-l@lehigh.edu>
Subject: [130324] RE: Kenwood TS-50
Message-ID: <01C230D2.EA197EC0@209-162-49-71.thegrid.net>

Yep, you certainly can set the TS-50 to QRP and even QRPP !
You need to read, "Honey, I shrunk the rig!..." by Bob Gobrick/WA6ERB.
(URL at end of this email.)

Abstract: By resetting a couple of pots, you can preset your TS-50 to toggle its power setting from the mic buttons. Factory setting is 100/50/10w. You can set to 100/5/0.5w, for example. Or, 100/50/5w. You will need to pull the sheet metal covers; easily done, and have access to a good power meter/scope/etc to achieve an accurate setting. It's easy to do if you're comfortable working on something the size of a TS-50 :)!

Note: once you've reset to new power levels, the firmware won't accurately display your QRP power setting(s) - your display will still read 100/50/10. Just remember what you new 50/10 values are and you're good to go. 100 will always be 100.

Here ya go... URL: <http://www.g3ycc.karoo.net/ts50.htm>

Have fun,

Conrad Weiss
NN6CW

From: Fghester@aol.com[SMTP:Fghester@aol.com]
Sent: Sunday, July 21, 2002 3:48 PM
To: Low Power Amateur Radio Discussion
Subject: Kenwood TS-50

Anyone know if the TS-50 can be limited to 5W RF power? easily? Thanks /
WD9F

Date: Sun, 21 Jul 2002 15:34:52 -0800
From: Jim Larsen - AL7FS <AL7FS@arrl.net>
To: bkassel@mato.com
Cc: Low Power Amateur Radio Discussion <qrp-l@lehigh.edu>
Subject: [130325] Re: Contest: CQC Goldrush
Message-ID: <3D3B451C.BF06C5E6@ARRL.NET>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

Brian Kassel wrote:

> Wow, that was painful. Conditions were really rotten here, no other
> way to put it. Each QSO was a struggle, some more than others. I sure
> hope conditions weren't as bad for the rest of the country, but I'm
> afraid that they were.

I didn't even try. I checked earlier and there again was just one signal
on 20 meters and obviously QR0. I called CQ on 14.060 for several 4x3,
3x2, 2x1 CQs and got no answers at all at 5 watts.

Last night I built my N0SS HF Noise Generator and tuned up my K2 filters
and must say they now sound great and look great on the screen. No signals
on last night either. It was so bad I turned on my TS-450S just to be sure
it was the band. It was.

It feels just like 1995 again. Must be a time warp or something. :-)

Listen for me and my new K2 on the air. I am sure I will up my operating
time now that I have the new toy.

73, Jim

--

Jim Larsen, AL7FS, Anchorage, Alaska
(BP51cc) - 61.101 North, 149.824 West
ex-WA0LPK AK-QRP#003 SOC#003 10-X-#12094

mailto:al7fs@arrl.net - <http://www.qsl.net/al7fs/>

Date: Sun, 21 Jul 2002 19:42:36 -0400
From: "N3BJ" <N3BJ@hotmail.com>
To: "Low Power Amateur Radio Discussion" <qrp-1@lehigh.edu>
Subject: [130326] N3BJ Fox Final Log
Message-ID: <0E46ZF9byABeBJZL4tB00003a00@hotmail.com>
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

OK, this is it, log corrected per a few emails I received.

Hope to work you all on Aug.1 local time and will make a special effort to listen for W/VE 1, 2, 3 and W8 stations after 0300Z.

Time	Call	RST	SPC	Name	Power
0200	K5ZTY	559	TX	Bill	5W
0200	WA9TZE	579	WI	Jim	5W
0201	W5TB	559	TX	Doc	5W
0202	K5DW	559	TX	Don	5W
0202	W9XU	559	WI	Lon	5W
0203	NK9G	559	WI	Rick	5W
0204	N1FN	579	CO	ET	5W
0205	N9IJ	559	IL	Len	5W
0206	N5ZE	559	TX	Lew	5W
0206	WA8NTA/M	559	CO	Dick	5W
0207	WR50	559	TX	Dave	5W
0208	K5OI	559	OK	Tim	5W
0209	VE4WI	559	MB	Craig	5W
0210	N9NE	579	WI	Todd	100mW
0211	K8HJ	559	MI	John	4W
0212	K9IUA	559	WI	Kevin	5W
0212	WE9K	559	WI	Glenn	5W
0213	VE5RC/W7	559	MT	Bruce	5W
0214	N0UR	559	MN	Jim	5W
0214	AG0T	559	ND	Todd	4W
0215	KB7WW	559	OR	Art	5W
0215	K5TR	579	TX	Geo	1W
0216	W9HL	559	IL	Randy	5W
0217	K4TJD	559	GA	Tom	5W
0218	VE6EX	559	AB	Dan	5W
0219	NQ7X	559	AZ	Floyd	5W
0219	W5YR	559	TX	George	5W

0220	NK6A	559 CA Don 5W
0221	AA4LR	559 GA Bill 5W
0221	NM5M	559 TX Eric 5W
0222	W5USJ	559 TX Chuck 5W
0223	AA50	559 LA Vern 5W
0224	K4GT	559 GA Jim 5W
0224	KD5KXF	559 TX Mike 5W
0225	VA6RF	559 AB Earl 5W
0225	K5E0A	559 LA Wayne 5W
0226	W0CH	559 MO Dave 5W
0227	NN5E	559 TX Vern 5W
0228	KI0II	559 CO Ron 5W
0229	N0JRN	559 MO Jerry 5W
0230	KG6CYN	559 CA Trevor 5W
0231	K5JHP/M	559 TX Bill 5W
0231	N0IT	559 MO Dave 5W
0232	VE3FAL	559 ON Fred 5W
0233	NQ7K	559 AZ Mike 5W
0234	AK7Y	559 AZ Greg 5W
0235	AB9CA	559 AL Dave 5W
0237	N0HRL	559 MN Ken 5W
0238	N0TK	559 CO Dan 5W
0240	K5LN	559 TX Bill 5W
0241	AJ4AY	559 AL Jay 5W
0244	VE7HHH	559 BC Blair 10W
0250	KG4CHX	559 NC Tim 5W
0256	LZ2RS	559 LZ Rumi 5W
0258	N6VZ	559 CA Gary 5W
0300	KZ5J	559 TX Pat 5W
0302	AK7D	559 OR Fred 5W
0306	KI0RB	559 CO Vince 5W
0310	AA0B	559 MO Roy 5W
0312	KB0LUR	559 CO Paul 5W
0314	K5SR	559 TX Dale 5W
0315	N5IB	559 LA Jim 5W
0320	AD6JV	559 CA Bill 5W
0325	N4DD	549 TN Dennis 5W
0326	K0FRP	579 CO Al 5W
0328	KJ0C	559 MO Jim 5W
0332	UT50A	559 UB Nick 5W
0338	K3PH	549 PA Bob 5W
0340	WL7CDC	559 AK Doug 5W
0345	N7BVY	559 WA Steve 5W
0349	K4FB	549 FL Paul 5W
0352	W7AQK	559 AZ Dave 5W
0359	N3BJ	599 VA Alan 5W

Best 73,

Alan, N3BJ
Bent Mountain, VA

Date: Sun, 21 Jul 2002 19:47:37 -0400
From: "John Huffman" <hjohnc@core.com>
To: <bkassel@mato.com>, <qrp-1@lehigh.edu>
Subject: [130327] Re: Contest: CQC Goldrush - K7RE
Message-ID: <006801c23110\$ff1eedd0\$63075dd8@jhuffmanlt>
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Brian -

You were two of my 12 QSO's and had a decent signal. K0FRP and N4HAY were loud at times, but QSB was really bad. All others were pretty far down on a dipole up 15 feet.

Operated portable getting ready for next Sunday's Flight of the Bumblebees and will need better conditions for my 1 watt to keep me busy for 4 hours.

But then, sitting in the shade on a 90 degree day with headphones is its own reward.

72 de K8HJ es tnx
John

> Gangue:

>

> Wow, that was painful. Conditions were really rotten here, no other
> way to put it. Each QSO was a struggle, some more than others. I sure
> hope conditions weren't as bad for the rest of the country, but I'm
> afraid that they were. Very weak, and fading signals.
> Thanks to the CQ gang for putting on this event.

>

> I worked 14 different stations, had 22 QSO's. Worked VE7NI and K0ZK 3
> times. Total QSO points were 56, and 14 multipliers for a total score
> of 784.

>

> To make matters worse, I tried to do the CQ VHF contest this weekend.
> I even put up a new 6M antenna. No QSO's, not one!

>

> Sure hope conditions are better for the next one. Think I'll crack a

> Heineken ;)
>
> Brian K7RE
> Spearfish SD
> In the Black Hills
>
>

Date: Sun, 21 Jul 2002 19:48:14 -0400
From: W2AGN <w2agn@w2agn.net>
To: Low Power Amateur Radio Discussion <qrp-1@lehigh.edu>
Subject: [130328] Re: Tuner basics
Message-ID: <3D3B0FFE.5879.101959D2@localhost>
MIME-version: 1.0
Content-type: text/plain; charset=US-ASCII
Content-transfer-encoding: 7BIT
Content-description: Mail message body

On 21 Jul 2002 at 16:33, Karl F. Larsen wrote:

>
> After discussing the tuner herein exactly an MFJ model MFJ-941C
> but valid for all similar tuners, they are bi-directional. This means
> exactly that if I tune the load so that the transmitter has a steady
> state SWR=1:1 then any power entering the tuner from the load will
> likewise be tuned to appear as power with the proper impedance to have a
> perfect SWR and the power will be absorbed by the transmitter output
> impedance. Period. End of discussion.

Oh boy, what goes around comes around. Here we are back to the famous
"Resiprosity" thread!

"Got a full 6-pack, but lacks the plastic thing to hold it all
together"

--

/ \ / \ / \ / \ / \ John L. Sielke
(W) (2) (A) (G) (N) http://www.w2agn.net
_ / _ / _ / _ / _ / ARCI, NJQRP, ARQrp, GQRP, RSGB
Ex- K3HLU, W7JEF, W4MPC, N4JS

Date: Sun, 21 Jul 2002 17:51:57 -0600
From: "Al Dawkins" <alk0frp@attbi.com>
To: <qrp-1@lehigh.edu>
Subject: [130329] Colorado Goldrush K0FRP
Message-ID: <004f01c23111\$999f8a90\$0500a8c0@homev3v5yzk21f>
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

El Stinko Condx

All time low for Q's, Condx just not there. I believe we had a flare but not sure. All sigs were very weak
10 states Or to Me but it was like a 6 meter opening very spotty and selective

K7RE may be a winner he beat me by 2 Q's, 20 Q's here.
20 meter has been very weird with my ARCI from Maryland last week end to FOX to the CO Gold Rush.

We shall see better Days
Al K0FRP

Date: Sun, 21 Jul 2002 20:21:53 -0400
From: Steven Weber <kd1jv@moose.ncia.net>
To: qrp-1@lehigh.edu
Subject: [130330] RE: 24 hr, UTC, WWVB Clock at Wal-Mart for \$12.56
Message-ID: <3.0.6.32.20020721202153.007a0a10@mailhost.ncia.net>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

I ran out and found the Oregon Scientific, though it was \$12.96 here, so I got ripped :-). First thing I did was take it apart :-). Not much in there! But did find the ferrite rod antenna is mounted at the bottom of the case. If you stand the clock on anything metal it detunes it. Once I found that out and placed it on a wooden window sill, it sync'd in a few minutes. So, if you get one of these, keep it away from metal and it should do fine.

72,
Steve, KD1JV
"Melt Solder"

White Mountains of New Hampshire
<http://www.qsl.net/kd1jv/>

Date: Sun, 21 Jul 2002 20:11:48 -0400
From: Steven Weber <kd1jv@moose.ncia.net>
To: qrp-1@lehigh.edu
Subject: [130331] Propagation, or lack there of
Message-ID: <3.0.6.32.20020721201148.007afc60@mailhost.ncia.net>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

Yeap, was working on a rig yesterday and hooked up an antenna to check it out in the early afternoon and nada. Nada on 40, 20, 17 or 15. Had to hook the sig gen back up to convince myself it wasn't the rig!

But last night was better, got a couple new countries on 20M SSB at 5 watts (they come easy at first) and worked Poland and Italy with 5 W CW on 40 around 0400 UTC. Nice to have a Conjugately matched "88" up about 40 feet, at the top of a 1500 foot pass in an east-west facing valley :-). Only got about another month to enjoy it, before having to move back into town and into the "hole" :-(

AA1MY and I hike up the shoulder of Mt Jefferson looking for a good BB site next weekend. Brought the souped up WM-20 and a CW rig and the Gusher dipole. Found a good site, just below tree line, but the bands were not in good shape this afternoon either. Couldn't rise anyone on sideband, though we heard a good number of stations. 40 was completely dead and only managed to rise one very weak WB9 on 20 CW, who might have been in the gold rush contest. Forgot all about that one. Sure hope conditions are better next weekend for BB, we're gonna drag a lot more stuff up there next Sunday!

72,
Steve, KD1JV
"Melt Solder"
White Mountains of New Hampshire
<http://www.qsl.net/kd1jv/>

Date: Sun, 21 Jul 2002 20:15:54 -0400
From: David Hinerman <WD8CIV@worldnet.att.net>
To: qrp-1@lehigh.edu
Subject: [130332] RE: 24 hr, UTC, WWVB Clock at Wal-Mart for \$12.56
Message-ID: <5.1.0.14.1.20020721200912.00b28c18@postoffice.worldnet.att.net>
Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"; format=flowed

At 01:52 PM 7/21/2002 -0500, you wrote:

>Darn! Checked the local Wal-Mart and found two WWV clocks - one analog
>for \$11.XX and a digital for \$24.XX. Both are made by Atomix and both
>claimed "automatic" adjustment for daylight savings time and
>back. Couldn't get to the instructions (you know with store security
>looking over your shoulder and all!) so couldn't tell if the DST feature
>was switchable or not. I'll wait a bit more. I liked Karl K's idea of
>having two such clocks, one set for GMT and one for local. Wal-mart, by
>the way, had very nice smallish (5 or 6") analog wall clocks for \$3.84 on
>sale - almost bought one.

FWIW, the power line frequency in the US and Canada is very well regulated
- line referenced clocks are quite accurate here. When I was in Navy-Marine
Corps MARS some years ago I used a clock I built from a partial kit from
Poly Paks (that's how long ago it was) to keep time during traffic nets.
I'd tune in WWV or CHU time tick a couple hours before the net and sync up
my clock to it. The clock was never more than about a second off, having
been set the day before.

I went for a week without setting the clock, but just checking it against
the time tick. The clock was never more than 4 seconds off - first it was
fast, then a few days later it was slow. By the end of the week it was back
to within a couple of seconds.

That was in the late 1970s. I believe the line frequency is more tightly
controlled now.

Dave

"You can fool some of the people all of the time. That's enough to make a
living." - Lance Burton

Dave Hinerman
WD8CIV@att.net

Date: Sun, 21 Jul 2002 20:38:54 -0400
From: John Farler <jfarler@peoplepc.com>
To: qrp-l <qrp-l@lehigh.edu>
Subject: [130333] Re: Clear the air
Message-ID: <3D3B541E.A4CD67D0@peoplepc.com>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii

Content-Transfer-Encoding: 7bit

As I recall from the "Bureaucrats' Dictionary,"
circa 1966 or so,

"Clarify - cover and recover the ground on any
(simple?) topic, beat, hash, and plow the same ground from every
angle, bring the background into the foreground,
the foreground in to the background,
until any common ground goes underground."

Boy, am I confused by now. Have a good week.

J. F., K4AVX

"The picture's better on the radio."

Date: Sun, 21 Jul 2002 17:55:07 -0700
From: "Steve McDonald" <jsm@gulfislands.com>
To: "Low Power Amateur Radio Discussion" <qrp-1@lehigh.edu>
Subject: [130334] Re: Kenwood TS-50
Message-ID: <000601c2311a\$6d9cd2a0\$4e11f4cc@jasm>
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

There is an easier, no invasive, method of QRPing the TS-50 (and most any
rig). Put a high value pot across a 9V battery and connect from the wiper
arm of the pot to the ALC input jack on the back panel. By adjusting the ALC
clamping voltage you can vary the output from zero to full power just by
turning the pot.

Steve / VE7SL

> Yep, you certainly can set the TS-50 to QRP and even QRPP !
> You need to read, "Honey, I shrunk the rig!..." by Bob Gobrick/WA6ERB.
> (URL at end of this email.)
>
> Abstract: By resetting a couple of pots, you can preset your TS-50 to
> toggle its power setting from the mic buttons. Factory setting is
> 100/50/10w. You can set to 100/5/0.5w, for example. Or, 100/50/5w. You
will
> need to pull the sheet metal covers; easily done, and have access to a
good
> power meter/scope/etc to achieve an accurate setting. It's easy to do if

> you're comfortable working on something the size of a TS-50 :)!
>
> Note: once you've reset to new power levels, the firmware won't accurately
> display your QRP power setting(s) - your display will still read
100/50/10.
> Just remember what your new 50/10 values are and you're good to go. 100
will
> always be 100.
>
> Here ya go... URL: <http://www.g3ycc.karoo.net/ts50.htm>
>
> Have fun,
>
> Conrad Weiss
> NN6CW
>
> -----
> From: Fghester@aol.com[SMTP:Fghester@aol.com]
> Sent: Sunday, July 21, 2002 3:48 PM
> To: Low Power Amateur Radio Discussion
> Subject: Kenwood TS-50
>
> Anyone know if the TS-50 can be limited to 5W RF power? easily? Thanks /
> WD9F
>

Date: Sun, 21 Jul 2002 20:49:23 -0400
From: wkhibbert@juno.com
To: qrp-l@lehigh.edu
Subject: [130335] An SST-15?
Message-ID: <20020721.204925.-467585.0.wkhibbert@juno.com>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

Hi, Keith here in the Depths of the Great Bergen Swamp.

I have been helping county hunters in Europe to fill in some of the
lesser active counties out here in WNY, and dragging the Kenwood along
with me is getting to be a drag.

Has anyone converted an SST-20 to 15 Meters? Or has anyone tried out any
of the single-band 15M rigs from the mobile?

I would prefer a K2 or an FT-817 but the budget won't stretch that far...

73, Wm. Keith Hibbert, WB2VU0, TC/WNY ARRL Section
President, Brockport Amateur Radio Klub
"My night light runs more power than my Rig!!!"

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<http://dl.www.juno.com/get/web/>.

Date: Sun, 21 Jul 2002 21:01:47 -0400
From: "Mike Yetsko" <myetsko@insydesw.com>
To: <WD8CIV@worldnet.att.net>,
"Low Power Amateur Radio Discussion" <qrp-l@lehigh.edu>
Subject: [130336] Re: 24 hr, UTC, WWVB Clock at Wal-Mart for \$12.56
Message-ID: <001101c2311b\$5ba652a0\$0300a8c0@charter.net>
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

>From what I understand, the US line frequency, actually, the North
American, is allowed to drift quite a bit. But it must maintain an
AVERAGE of 60hz over any long period.

I'm not sure how much it's allowed to drift though, but someone once
told me as much as 10 seconds.

Any National Grid people hang out that know?

Mike

----- Original Message -----

From: "David Hinerman" <WD8CIV@worldnet.att.net>
> FWIW, the power line frequency in the US and Canada is very well
regulated
> - line referenced clocks are quite accurate here. When I was in
Navy-Marine
> Corps MARS some years ago I used a clock I built from a partial kit from
> Poly Paks (that's how long ago it was) to keep time during traffic nets.
> I'd tune in WWV or CHU time tick a couple hours before the net and sync
up
> my clock to it. The clock was never more than about a second off, having
> been set the day before.
>

> I went for a week without setting the clock, but just checking it
against
> the time tick. The clock was never more than 4 seconds off - first it
was
> fast, then a few days later it was slow. By the end of the week it was
back
> to within a couple of seconds.
>
> That was in the late 1970s. I believe the line frequency is more tightly
> controlled now.
>
> Dave

Date: Mon, 22 Jul 2002 20:06:27 -0500
From: Nick Kennedy <nkennedy@tcainternet.com>
To: "'jamesd1@flash.net'" <jamesd1@flash.net>,
Low Power Amateur Radio Discussion <qrp-1@lehigh.edu>
Subject: [130337] RE: Clear the air: Conjugate Primer
Message-ID: <01C231BB.43E01700.nkennedy@tcainternet.com>
MIME-Version: 1.0
Content-Type: text/plain; charset="us-ascii"
Content-Transfer-Encoding: 7bit

-----Original Message-----

From: James R. Duffey [SMTP:jamesd1@flash.net]

>Nick and the list - I have avoided getting deeply involved in this thread
as
>it seems to have quickly evolved into a electro-political discussion. But
I
>can't take it any more.

It's about time. I thought I was going to have to put a stick of dynamite
under you to get you to pitch in.

"

I think that it is important to understand conjugate matching as it gives
us
insight into how our antenna tuners, feedlines, transmitter matching
networks, and receiving front end filters work. I think that it makes no
more sense to say "I don't care about conjugate matching; I twist my tuner
knobs and get a 1:1 SWR without understanding complex variables" , than it
does to say "I don't care about Ohm's Law, I turn the volume control and

get
the audio level I want without understanding voltage, current and
resistance".

Understanding how our radios and antennas work is becoming a diminishing
part of the hobby. It lives more in the QRP world than in other parts of
the
ham kingdom. I am not saying that everybody needs to understand everything
about their radios and antennas. But I think everybody should try to
understand more than they presently know about their radios and how they
work. When you stop learning, a part of you dies. If nobody wanted to
understand how radios work, the day will come when we will not have any new
radios to operate.
"

Even though Chuck hates when we do this, I left the entire two previous two
paragraphs in because Doc has said it so well. I'm not going to live long
enough to understand it all, but I'm always going to want to learn a little
more.

Now back to the dreaded "C" word:

Why is this all such a big deal among ham techie types today? Most know it
stems from disagreements over Maxwell's series, which became Reflections.

He started out educating folks about why they shouldn't place so much
emphasis on SWR and why a system with high SWR on the line could be
effective as long as the transmitter could put out its rated power. He
taught some transmission line basics. Good stuff and recommended.

Then he got into the conjugate match and how, when one exists anywhere in a
system, it exists everywhere. It seems (to me) that he was so charmed by
this concept that he concluded that it must exist in any properly adjusted
ham TX/TL/Antenna system. Some guys agreed and some didn't. After reading
a zillion posts and doing a little research, I joined those who don't see
why a conjugate match would have to exist.

But the "exists everywhere" thing is really pretty neat when you see it.
Essentially, it says that if you have a conjugate match somewhere in the
system, then you could cut the feedline at any point and look at the
impedance in both directions and you would see two impedances that are
complex conjugates of each other.

Like Doc said, this is a lot easier to play with using a PC program than
with a sliderule. I like Dan Maguire's (AC6LA's) new one called TLDetails,
which is freeware. You have to think for a minute to set the thing up ...
choose an impedance for one end--say $100 + j100$. Then a frequency and a
random length of coax. Say 14 MHz and 30 feet, using Belden 8267. Put
that into the program and you can read the Z at the end of the line as

30.27 -j54.19 ohms. You're going to make a conjugate match, so imagine connecting a load of $Z = 30.27 + j54.19$ at this end. Don't worry about a source; it doesn't figure in when calculating/measuring impedances.

Now you want to see that "conjugate exists everywhere" thing come to life.

So imagine you're going to cut the 30 foot coax at some random spot--say 13 feet from the $100 + j100$ end, 17 feet from the $30.27 + j54.19$ end. So first change the length of the line to 13 feet with the $100 + j100$ still in there. You read $12.20 - j3.38$ ohms looking that way. Now change the load to $30.27 + j54.19$ and the length to 17 feet to read the Z looking the other direction. It's $13.27 + j3.14$. Hey, it's not exact! But it's pretty close to the complex conjugate of the Z in the other direction. Dan's program simulates "real" coax, which is not completely lossless and has a Z_0 that's not totally resistive. But this is close enough to demonstrate the effect. Cool, eh? Try some other lengths.

OK, that's part 2 of conjugate match primer. Did I mention that I don't think we have a conjugate match in our typical ham installations? I need to, because one guy has already scolded me for proposing that transmitters have a 50 ohm internal resistance. I didn't mean to imply that. I thought we'd already flogged that dead horse to the extent that no one believes in the 50 ohm source impedance any more. Except maybe Karl--I'm not sure what he's thinking.

72--Nick, WA5BDU

Date: Sun, 21 Jul 2002 21:28:49 -0400
From: Michael Babineau <michael.babineau@sympatico.ca>
To: qrp-1@lehigh.edu
Cc: Fghester@aol.com
Subject: [130338] re: Kenwood TS-50
Message-ID: <5FFA1AAB-9D12-11D6-A2CF-00039309268A@sympatico.ca>
Content-Type: text/plain; charset=US-ASCII; format=flowed
Mime-Version: 1.0 (Apple Message framework v482)
Content-Transfer-Encoding: 7bit

Woody :

Yes indeed it is quite simple to set the TS-50 for 5W output. The low and medium power settings are adjustable by tiny pots inside. Mine is setup for 5W/25W on low/medium power.

It makes a great rig for QRP especially QRP phone. The performance on CW with the optional CW filter is also very good. What I like about the TS-50 is that the internal fan is temperature

controlled, so you don't have to listen to a cooling fan
when you run at QRP levels.

If you are interested I think I have a postscript version (.pdf) of the
article "Honey I Shrunk the Rig", by the late great
Bob Gobrick V01DRB which deals with how to make this simple mod.

Michael VE3WMB

Date: Sun, 21 Jul 2002 18:29:16 -0700 (PDT)
From: Bill Urie <burie@linknet.krl.org>
To: <qrp-l@lehigh.edu>
Subject: [130339] Ten Tec Argosy II
Message-ID: <Pine.LNX.4.33.0207211825520.17028-100000@linknet.krl.org>
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII

For sale Tentec model 525D Argosy II
(digital readout) has optional 217
500hz filter, 224 audio filter 1125
circuit breaker, power cord and manual.
Unit in very good condx. \$375
Bill W7XV

Date: Sun, 21 Jul 2002 20:45:05 -0500
From: "Randall" <Firefox67501@cox.net>
To: <michael.babineau@sympatico.ca>,
"Low Power Amateur Radio Discussion" <qrp-l@lehigh.edu>
Subject: [130340] RE: Kenwood TS-50
Message-ID: <MABBKDBHIJCIGDIMOHOBMEIPFGAA.Firefox67501@cox.net>
MIME-Version: 1.0
Content-Type: text/plain;
charset="Windows-1252"
Content-Transfer-Encoding: 7bit

Try <http://www.g3ycc.karoo.net/ts50.htm>

-----Original Message-----

From: owner-qrp-1@Lehigh.EDU [mailto:owner-qrp-1@Lehigh.EDU] On Behalf Of Michael Babineau
Sent: Sunday, July 21, 2002 8:29 PM
To: Low Power Amateur Radio Discussion
Subject: re: Kenwood TS-50

Woody :

Yes indeed it is quite simple to set the TS-50 for 5W output. The low and medium power settings are adjustable by tiny pots inside. Mine is setup for 5W/25W on low/medium power.

It makes a great rig for QRP especially QRP phone. The performance on CW with the optional CW filter is also very good. What I like about the TS-50 is that the internal fan is temperature controlled, so you don't have to listen to a cooling fan when you run at QRP levels.

If you are interested I think I have a postscript version (.pdf) of the article "Honey I Shrunk the Rig", by the late great Bob Gobrlick V01DRB which deals with how to make this simple mod.

Michael VE3WMB

Date: Sun, 21 Jul 2002 19:54:52 -0600 (MDT)
From: "Karl F. Larsen" <k5di@zianet.com>
To: Steven Weber <kd1jv@moose.ncia.net>
Cc: Low Power Amateur Radio Discussion <qrp-1@lehigh.edu>
Subject: [130341] RE: 24 hr, UTC, WWVB Clock at Wal-Mart for \$12.56
Message-ID: <Pine.LNX.4.44.0207211952440.3886-1000000@Daisy.dog>
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII

Glad you took your's apart! I'm so happy with mine I will not take it apart until it stops working. I will buy another tomorrow and make it my super accurate UTC time clock. Both will operate on wooden tables/nightstands...hi

On Sun, 21 Jul 2002, Steven Weber wrote:

> I ran out and found the Oregon Scientific, though it was \$12.96 here, so I

> got ripped :-) First thing I did was take it apart :-) Not much in there!
> But did find the ferrite rod antenna is mounted at the bottom of the case.
> If you stand the clock on anything metal it detunes it. Once I found that
> out and placed it on a wooden window sill, it sync'd in a few minutes. So,
> if you get one of these, keep it away from metal and it should do fine.
>
>
>
> 72,
> Steve, KD1JV
> "Melt Solder"
> White Mountains of New Hampshire
> <http://www.qsl.net/kd1jv/>
>

--

Yours Truly,

- Karl F. Larsen, (505) 524-3303 -

Date: Sun, 21 Jul 2002 20:34:32 -0600 (MDT)
From: "Karl F. Larsen" <k5di@zianet.com>
To: Nick Kennedy <nkennedy@tcainternet.com>
Cc: Low Power Amateur Radio Discussion <qrp-l@lehigh.edu>
Subject: [130342] RE: Clear the air: Conjugate Primer
Message-ID: <Pine.LNX.4.44.0207212017010.3886-100000@Daisy.dog>
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII

Hi Nick, you always write very long messages covering many subjects. I'm interested in just one now, and that's the equivalent circuit of a push pull transistor amplifier looking at the output port. I have one of those on my little amp for the FT-817. I wound the coils in the big core that serves as the output transformer. It's very broad tuned to cover 160 through 10 meters. The output coil is 2 turns of #18 multi stranded wire, about 6 inches total length. Also on the core is 4 turns of the same wire that goes to the FET source's.

For sure the copper loss is very low. The actual resistance is well below 1 ohm. Now there must be some impedance at the operating frequency which is caused by the push pull action of the FET's and I rather think that's where the nominal 50 ohms comes from.

So if this is correct, what does reflected power see? I have no

knowledge to base even a guess on. My gut feeling is it would see about 50 ohms but not at all sure.

What do you think Nick?

On Mon, 22 Jul 2002, Nick Kennedy wrote:

>
> -----Original Message-----
> From: James R. Duffey [SMTP:jamesd1@flash.net]
>
> >Nick and the list - I have avoided getting deeply involved in this thread

--
Yours Truly,

- Karl F. Larsen, (505) 524-3303 -

Date: Sun, 21 Jul 2002 21:27:32 -0500
From: John Seboldt <k0jd-l@seboldt.net>
To: qrp-l@lehigh.edu
Subject: [130343] Re: 1:1 Balun at input of tuner - IT WORKS !
Message-ID: <5.1.0.14.0.20020721211755.009e62c0@seboldt.net>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"; format=flowed

At 03:13 PM 7/21/02 -0400, you wrote:
>Very true. Of course, you realise you need a balanced tuner. The
>unbalanced "T" or "L" tuner won't do if the input is balanced.
>
>Balanced (input) tuners are something of a rarity on the commercial
>market. Of course, you can homebrew one easily enough.

Well, plenty of folks are getting by without a fully-balanced tuner circuit. There are plenty of published circuits that don't bother with perfectly-symmetrical circuits after the balun - in fact, to go back to my (relatively) recent 1998 ARRL Handbook, the project on page 22.59 does this. And my 1988 Handbook had a smaller L-network tuner that put the balun on the input, but did not attempt to make a symmetrical "balanced-L" network.

This is not to say that maybe a fully-balanced circuit wouldn't be better - just that you're probably getting better results than hanging that 4:1 balun on the output, running into a horrendously reactive ladder line of random impedance, perhaps well outside the range of the balun's ratings.

So, to say that you *need* a balanced tuner after the balun is overstating the case a bit.

John Seboldt K0JD
Milwaukee

Date: Sun, 21 Jul 2002 22:44:41 -0400
From: Bill Coleman <aa4lr@arrl.net>
To: <k0jd-1@seboldt.net>,
"Low Power Amateur Radio Discussion" <qrp-1@lehigh.edu>
Subject: [130344] Re: 1:1 Balun at input of tuner - IT WORKS !
Message-ID: <20020722024440.CEBH19755.imf22bis.bellsouth.net@[192.168.0.20]>
Mime-Version: 1.0
Content-Type: text/plain; charset="US-ASCII"

On 7/21/02 10:27 PM, John Seboldt at k0jd-1@seboldt.net wrote:

>Well, plenty of folks are getting by without a fully-balanced tuner
>circuit. There are plenty of published circuits that don't bother with
>perfectly-symmetrical circuits after the balun - in fact, to go back to my
>(relatively) recent 1998 ARRL Handbook, the project on page 22.59 does
>this. And my 1988 Handbook had a smaller L-network tuner that put the balun
>on the input, but did not attempt to make a symmetrical "balanced-L" network.

If this circuit is the same as my 2000 Handbook, it is for the
"High-Power ARRL Antenna Tuner for Balanced or Unbalanced Lines".

Note that this circuit is designed to isolate both ends of the balun from ground. Your typical commercial "T" or "L" transmatch does not. That's the difference! If you just put a balun before a transmatch that is designed for unbalanced input, you'll end up with a hot chassis. Not a good idea.

>This is not to say that maybe a fully-balanced circuit wouldn't be better -
>just that you're probably getting better results than hanging that 4:1
>balun on the output, running into a horrendously reactive ladder line of
>random impedance, perhaps well outside the range of the balun's ratings.
>So, to say that you *need* a balanced tuner after the balun is overstating
>the case a bit.

Don't run the chassis hot. Use a circuit that is designed to keep both outputs of the balun isolated from ground. That's all I'm saying.

Bill Coleman, AA4LR, PP-ASEL Mail: aa4lr@arrl.net
Quote: "Not within a thousand years will man ever fly!"
 -- Wilbur Wright, 1901

Date: Sun, 21 Jul 2002 20:58:01 -0600 (MDT)
From: "Karl F. Larsen" <k5di@zianet.com>
To: "James R. Duffey" <jamesd1@flash.net>
Cc: Low Power Amateur Radio Discussion <qrp-l@lehigh.edu>
Subject: [130345] RE: Clear the air: Conjugate Primer
Message-ID: <Pine.LNX.4.44.0207212047001.3936-1000000@Daisy.dog>
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII

James, your a Physics person I believe. A common tuner like the MFJ when tuned up to match a transmitter for a 1:1 SWR on a short cable will be a bi-directional device. It converts a nominal 50 ohms source to a different $R + jX$ at the load. Now assuming RF comes back towards the transmitter it will be transformed to a nominal 50 ohms by the tuner.

What happens to this reflected power? I really don't have a guess but plan to do some measuring. For example I can tune up on a band and then remove the transmitter and measure what the tuner impedance is. If, for some unknown reason the transmitter has this conjugate impedance so much loved it would be interesting, but I don't know how to measure the transmitter impedance.

--

Yours Truly,

- Karl F. Larsen, (505) 524-3303 -

Date: Sun, 21 Jul 2002 22:17:28 -0500
From: "George, W5YR" <w5yr@att.net>
To: k5di@zianet.com
Cc: Low Power Amateur Radio Discussion <qrp-l@lehigh.edu>
Subject: [130346] Re: Clear the air: Conjugate Primer
Message-ID: <3D3B7948.7F29E809@att.net>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

Karl, the May/June issue of QEX has an excellent article by Warren Bruene, W5OLY, on the subject of measuring transmitter impedance. He is a leading authority on this subject.

73/72/00, George W5YR - the Yellow Rose of Texas
Fairview, TX 30 mi NE of Dallas in Collin county EM13qe
Amateur Radio W5YR, in the 56th year and it just keeps getting better!
QRP-L 1373 NETXQRP 6 SOC 262 COG 8 FPQRP 404 TEN-X 11771 I-LINK 11735
Icom IC-756PRO #02121 Kachina 505 DSP #91900556 Icom IC-765 #02437

"Karl F. Larsen" wrote:

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> James, your a Physics person I believe. A common tuner like the
> MFJ when tuned up to match a transmitter for a 1:1 SWR on a short cable
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> and then remove the transmitter and measure what the tuner impedance is.
> If, for some unknown reason the transmitter has this conjugate impedance
> so much loved it would be interesting, but I don't know how to measure
> the transmitter impedance.

Date: Sun, 21 Jul 2002 21:25:29 -0600
From: "Al Dawkins" <alk0frp@attbi.com>
To: <qrp-l@lehigh.edu>
Subject: [130347] Fox Log K0FRP
Message-ID: <000c01c2312f\$6dd05930\$0500a8c0@homev3v5yzk21f>
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Log Fox K0FRP

2002	K3PH	579	GA	BOB	5W
2002	N1FN	599	CO	ET	5W
2002	K3IU	559	RI	KEN	5W
2004	K5DW	559	TX	DON	5W
2005	WA9TZE	579	WI	JIM	5W
2006	W9XU	559	WI	LON	5W
2006	K8CV	559	MI	WALT	5W
2007	N4ROA	579	VA	DAN	5W
2008	N9IJ	589	IL	BEN	5W
2008	NA50	579	LA	VERN	5W
2009	NK6A	559	CA	DON	5W
2009	KJ0C	599	MO	JIM	5W
2010	K4GT	559	GA	JIM	5W
2010	NK9G	559	WI	RICK	5W
2011	AA4LR	579	GA	BILL	5W
2012	KG7WW	599	OR	ART	5W
2012	N9NE	599	WI	TOM	100NW
2013	K8IJ	559	MI	JOHN	4W
2014	VE6EX	559	AB	DAN	5W
2015	WE9K	559	WI	GLEN	5W
2015	K4FB	579	FL	PAUL	5W
2016	VE4WI	559	MB	CRAIG5W	

2017	K4MF	579	FL	GARY	5W
2017	W5USJ	559	TX	CHUCK5W	
2018	WB8RCR	559	MI	JOHN	3W
2019	K5TR	579	TX	GEO	1W
2019	K4TJD	599	GA	TOM	5W
2019	W9HL	559	IL	RANDY5W	
2021	K9IUA	599	IA	KEVIN5W	
2021	VE3FAL	599	ON	FRED	5W
2022	KB9YIG	559	IN	TONY	5W
2023	K3ESE	599	MD	FLOYD500MW	
2024	AB9CA	559	AL	DAVE	5W
2025	W0CH	579	MO	DAVE	5W
2025	N4DD	559	TN	DENNIS5W	
2027	KG4FSN	559	FL	JUAN	5W
2027	N3XRV	579	PA	CHRIS	5W
2027	K9UT	559	IN	JERRY5W	
2028	N0IT	599	MO	Dave	5w
2029	VA6RF	559	AB	EARL	5W
2030	N1WPU	549	ME	TED	5W
2031	K0DQ	579	IN	SCOTT5W	
2032	K5E0A	559	LA	WAYNE5W	
2032	K5LN	559	TX	BILL	5W
2033	N5IB	579	LA	JIM	5W
2034	K9DC	559	IN	DAVE	5W

2034	AJ4AY	579	AR	JAY	5W
2035	KG4CHX	599	NC	TIM	5W
2036	N7BVY	599	OR	STEVE5W	
2038	KI0RB	599	CO	VINCE5W	
2038	KC6CYN	559	CA	TREV	5W
2039	W9AYG	579	WI	FRED	5W
2041	KF4FPP	559	GA	CHUCK5W	
2041	N0UR	579	MN	JIM	5W
2042	N0HRL	559	MN	KEN	5W
2042	KZ5J	599	TX	PAT	5W
2044	KC1FD	559	CT	JIM	1W
2046	VE5RC/W7	559	MT	BRUCE5W	
2051	AG0T	559	ND	TOM	5W
2056	W5YR	579	TX	GEORGE5W	
2056	KV3X	579	NY	FRED	5w
2058	K8DD	559	MI	HANK	5W
2103	KI0II	559	CO	RON	1W
2109	K5SR	559	TX	DAVE	5W
2109	K5JHP	559	CO	BILL	5W
2110	W5TB	559	TX	DOC	5W
2119	NM5M	579	TX	ERIC	5W
2126	N3BJ	579	VA	ALAN	5W
2131	WA8BXN	559	OH	MIKE	5W
2133	N7BVY	579	WA	STEVE5W	

2141	W3KC	579	MD	CHAS	1W
2142	AB6JV	559	CA	BILL	5W
2142	AK7D	579	OR	FRED	5W
2153	N9WW/1	559	ME	JIM	5W

Hot and heavy first 30 min 41 q's

2nd 30 min 21 q's

3rd 30 min 06 q'w

4th 20 min 06 q's

Al K0FRP

Aurora Colorado

Date: Sun, 21 Jul 2002 23:38:11 -0400
 From: Bill Coleman <aa4lr@arrl.net>
 To: <jamesd1@flash.net>,
 "Low Power Amateur Radio Discussion" <qrp-l@lehigh.edu>
 Subject: [130348] Re: Radial Lengths (long, was dipping traps)
 Message-ID: <20020722033810.QSSZ1173.imf26bis.bellsouth.net@[192.168.0.20]>
 Mime-Version: 1.0
 Content-Type: text/plain; charset="US-ASCII"

On 7/16/02 11:20 PM, James R. Duffey at jamesd1@flash.net wrote:

>You are right, if one elevates the radials then one can get away with fewer
>of them, but it is necessary that they be resonant.

There's been considerable debate on this topic. Are a few elevated radials an efficient substitute for many ground-mounted radials?

Computer models would seem to suggest it. However, W4RNL recently had a series of articles in NCJ analysing the results of the ground modeling in a variety of programs. The thing that struck me is no two programs gave the same answers, even when the ground and radials were modeled in a variety of ways.

W8JI has brought up this issue before on TowerTalk. His key point is that field strength measurements of both a 120 1/2 wave ground radial system and a set of (4-8?) elevated radials do not match -- even though the computer models suggest that they should.

AM broadcasters actually tried this experiment -- and went back to the old standard of 120 1/2 wave radials.

Bottom line: a few elevated radials are certainly effective if they are 1/2 wave or more away from ground. Closer than that, and the effectiveness declines. At some point, a proper ground-mounted radial system is preferable. But, if you can accept no other radial system, an elevated system will work.

Bill Coleman, AA4LR, PP-ASEL Mail: aa4lr@arrl.net
Quote: "Not within a thousand years will man ever fly!"
 -- Wilbur Wright, 1901

Date: Sun, 21 Jul 2002 23:40:45 -0400
From: Bill Coleman <aa4lr@arrl.net>
To: <w6toy@erols.com>,
 "Low Power Amateur Radio Discussion" <qrp-1@lehigh.edu>
Subject: [130349] Re: Radial Lengths (long, was dipping traps)
Message-ID: <20020722034044.KMSV1203.imf28bis.bellsouth.net@[192.168.0.20]>
Mime-Version: 1.0
Content-Type: text/plain; charset="US-ASCII"

On 7/17/02 11:37 AM, Bruce Muscolino at w6toy@erols.com wrote:

>Is the absolute length of the radials important. I suspect so, but it
>may not be as critical as you think.

For ground-mounted radials -- the exact length isn't important. The proximity of the ground induces losses into the wire.

As you elevate the radials above ground, the exact length becomes important.

Bill Coleman, AA4LR, PP-ASEL Mail: aa4lr@arrl.net
Quote: "Not within a thousand years will man ever fly!"
 -- Wilbur Wright, 1901

Date: Sun, 21 Jul 2002 23:45:02 -0400
From: Bill Coleman <aa4lr@arrl.net>
To: <k5di@zianet.com>,
 "Low Power Amateur Radio Discussion" <qrp-1@lehigh.edu>
Subject: [130350] RE: Clear the air: Conjugate Primer
Message-ID: <20020722034502.QWPT1173.imf26bis.bellsouth.net@[192.168.0.20]>
Mime-Version: 1.0
Content-Type: text/plain; charset="US-ASCII"

On 7/21/02 10:58 PM, Karl F. Larsen at k5di@zianet.com wrote:

>James, your a Physics person I believe. A common tuner like the
>MFJ when tuned up to match a transmitter for a 1:1 SWR on a short cable
>will be a bi-directional device. It converts a nominal 50 ohms source to
>a different $R + jX$ at the load. Now assuming RF comes back towards the
>transmitter it will be transformed to a nominal 50 ohms by the tuner.

Actually, not. It gets reflected back down the line by the tuner. It never goes back to the transmitter.

THINK about it. You put a directional coupler between your transmitter and the tuner. You read 100 watts in the forward direction. How many watts in the reverse? Since you have a perfect 1:1 SWR on this cable, you'll read zero watts in the reverse direction.

The reflections are bounced back down the line by the tuner.

> What happens to this reflected power?

Assuming a lossless tuner, this reflected power is sent down the transmission line again.

Bill Coleman, AA4LR, PP-ASEL Mail: aa4lr@arrl.net
Quote: "Not within a thousand years will man ever fly!"
 -- Wilbur Wright, 1901

Date: Sun, 21 Jul 2002 23:14:21 -0500
From: "George, W5YR" <w5yr@att.net>
To: aa4lr@arrl.net
Cc: Low Power Amateur Radio Discussion <qrp-1@lehigh.edu>
Subject: [130351] Re: Clear the air: Conjugate Primer
Message-ID: <3D3B869D.1F87F644@att.net>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

Specifically because of the conjugate match formed at the tuner input terminals by the adjustment of the tuner to show that 1:1 SWR on the coax to the transmitter. The reflected wave encounters this condition at the input terminals of the tuner - the "match point" as Maxwell terms it - as a virtual short or open - depends - and is totally reflected at that point in the system and to become a part of the forward traveling wave back to the antenna.

If the tuner and line were lossless, which they very nearly are in most amateur HF installations, all the power from the transmitter entering the tuner would be radiated by the antenna regardless of the SWR on the line or the degree of mismatch between the input impedance of the antenna and the Z_0 of the feedline. With a modicum of tuner loss and feedline loss and some inherent loss in the antenna itself, a negligible portion of the applied power is lost in heat.

One other point: power cannot be transformed in an impedance. Only an impedance can be transformed by the tuner. This is a property of that particular type of network. Voltage, currents and power levels change as a result of the impedance transformation but " RF power coming back towards the transmitter will NOT be transformed to a nominal 50 ohms by the tuner. Maybe something else was meant . . .

And this is interesting, Bill: with that 1:1 SWR on the coax to the rig, it must be terminated in 50 ohms at the rig . . . does that "prove" that the source impedance of the rig is 50 ohms? Hmmmmmm . . . since we tune all tuners for 1:1 in the transmitter line, does that mean that all transmitters have a 50-ohm source resistance?

Tuners are magic! So is conjugate matching . . . <:}

73/72/00, George W5YR - the Yellow Rose of Texas
Fairview, TX 30 mi NE of Dallas in Collin county EM13qe
Amateur Radio W5YR, in the 56th year and it just keeps getting better!
QRP-L 1373 NETXQRP 6 SOC 262 COG 8 FPQRP 404 TEN-X 11771 I-LINK 11735
Icom IC-756PRO #02121 Kachina 505 DSP #91900556 Icom IC-765 #02437

Bill Coleman wrote:

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>
> > What happens to this reflected power?
>
> Assuming a lossless tuner, this reflected power is sent down the
> transmission line again.

Date: Sat, 20 Jul 2002 00:34:34 -0500
From: Ade Weiss W0RSP <adeweiss@sd.value.net>
To: qrp-l@lehigh.edu
Subject: [130352] Fwd: Re: Conjugate matching
Message-ID: <F735ZA9U04Y0IFA64FEBRM1ZHFFCSN.3d38f66a@aweiss>
MIME-Version: 1.0
Content-Type: text/plain; charset="windows-1252"

Hi Bill & all:

I'm no expert, but I'm not sure that the quoted text is correct if my reading of

Maxwell serves me OK. Also, if this were true, every Smith Chart would have to be redrawn everytime a transmatch is included at the end of the feedline.

First, we start with the R/X coordinates at the antenna feedpoint and enter that onto the Smith Chart. Then we rotate back to the input section of the feedline, then we put in a transmatch to bring the input end of the feedline to the non-reactive, $Z(0)$ state. The starting position is determined solely by the antenna's feedpoint impedance and the feedlines characteristic impedance. Both quantities are defined by the physical structure (including the antenna's position in an environment).

The magnitude of mismatch between the antenna feedpoint and end of the feedline cannot be modified by doing anything at the input end of the feedline. That mismatch determines the impedance that is seen at the input of the feedline. You can transform that to the correct $R \pm j0$, but that doesn't change anything at the antenna end.

I think the key in the quoted passage is "a net system reactance of zero." The bottom line is that the transmitter sees a non-reactive load, but that is not the same as the transmission line seeing a perfect matching load where it is connected to the antenna. Evenso, maximum transfer of power into the feedline will occur with a conjugate match at the input end. Then the mismatch at the feedpoint causes reflections that absorb power. Maxwell's writings make much of loss due to the reflections. Reflections only happen in a mismatched condition. In other words, they usually always happen because of the feedpoint/feedline mismatch.

Something like that.

Interesting stuff. Bottom Line, tho, is getting as much power into the feedline as we can, and that requires the conjugate match at the input end of the feedline. If the transmatch could create a non-reactive connection between the feedline and antenna, then there would be no point whatever in cutting an antenna to dimension. Yet we all know that a 26ft dipole doesn't work as well as a 136ft dipole on 80 meters no matter what kind of tuner we use. Reflections cause loss.

72, Ade

"When a conjugate match is accomplished at any of the junctions in the system, any reactance appearing at any junction is cancelled by an equal and opposite reactance, which also includes any reactance appearing in the load. This reactance cancellation results in a net system reactance of zero, establishing resonance in the entire system. In this resonant condition the generator delivers its maximum available power to the load
....."

So, it follows that providing a conjugate impedance at the input to the transmission line effectively cancels all reactive components everywhere in the antenna system -- meaning every point in the feedline, and at the antenna itself. The lack of reactive components signifies resonance -- which means maximum power transfer.

----- End of forwarded message -----

Date: Sat, 20 Jul 2002 00:18:47 -0500
From: Ade Weiss W0RSP <adeweiss@sd.value.net>
To: qrp-l@lehigh.edu
Subject: [130353] Re: Conjugate matching
Message-ID: <52PLIC53UFNHWPKHCC775B6QL71LF.3d38f2b7@aweiss>
MIME-Version: 1.0
Content-Type: text/plain; charset="windows-1252"

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Date: Mon, 22 Jul 2002 01:48:32 -0400
From: "Kevin M., KC8SFJ" <adverseyaw@twmi.rr.com>
To: <lew@paceley.com>,
"Low Power Amateur Radio Discussion" <qrp-l@lehigh.edu>
Subject: [130354] Re: Ham shops in the Fort Worth area
Message-ID: <007601c23143\$6a61a830\$45f5d018@magnus>
MIME-Version: 1.0
Content-Type: text/plain;
charset="Windows-1252"
Content-Transfer-Encoding: 7bit

Lew and all the people who replied,

Thank you all for the help in finding some shops to look at while I was in Fort Worth.

I was at all of them last week and had a great time 'scrounging' around. I picked up an SWR meter at Texas Towers, misc. parts at Tanners, and 5 '14 turn' turns counting dials at NORTEX and some other misc. parts for projects. I would recommend NORTEX to anyone. The guy that runs the place was on a carrier in WWII and has some great stories to tell. He has been in that building since 1978, so the parts are there.

I was sorry that I couldn't get to the NETXQRP club meeting. I checked the map and it would have been a 2 1/2 hour drive. I was at the La Quinta at I820/I35W by FTW (Fort Worth Meacham airport). As I was on call to fly I couldn't go that far.

Anyway, thanks again all who responded you were a great help.

73,

Kevin, KC8SFJ

QRP-L #2366 - member since October/2001

QRP-ARCI #11248 - member since June/2002

FISTS #9293 - member since July/2002

----- Original Message -----

From: "Lew Paceley" <lew@paceley.com>

To: "Low Power Amateur Radio Discussion" <qrp-l@Lehigh.EDU>

Sent: Monday, July 15, 2002 10:52 PM

Subject: Re: Ham shops in the Fort Worth area

> Hi Kevin,

> There's probably a lot of shops in DFW that I haven't been to but

> here's a few in the Dallas metro area:

>

> Texas Towers: New/used equipment, aluminum tubing, books, antennas,

> etc. Not too much on display but they have a really big selection of

> new equipment at good prices. They even carry aluminum tubing for

> antennas in 3' sections that you can take back on the plane with you.

> <http://www.texastowers.com/info.htm>

>

> Tanners: "surplus" components, tools, and equipment extraordinaire. I

> can spend hours in this place. If you like to homebrew bring your

> stocking list and allocate lots of time. Tanners is just off of

> I35E, north of the I635/I35E intersection by two or three exits.

> <http://www.tannerelectronics.com/Directions.htm>

>

> Fry's Electronics: everything electronic from components to computers

> to software to telescopes to big screen TVs to ? They carry Alinco

> gear but generally it's pricey compared to online. They have a decent

> selection of component parts and they usually discount ARRL
> publications some. Their prices and selection of computer related
> stuff is excellent. The Fry's in Arlington, TX off I-20 is closest to
> Ft. Worth.
> <http://www.frys.com/>
>
> And finally, if you're in the DFW area this Saturday (July 20), you
> would be more than welcome to attend the NETXQRP club meeting in
> Terrell (near Dallas) @ 1PM. Directions are here:
> <http://www.netxqrp.org>
>
>
> Have fun!
>
> 72/73,
> *Lew*
> N5ZE
>
>
>

Date: Fri, 19 Jul 2002 08:50:03 -0400
From: Dave Richards <wr3i@earthlink.net>
To: "Low Power Amateur Radio Discussion" <qrp-l@lehigh.edu>,
 TORourke@kaiserft.com
Subject: [130355] Re: Gastronomic oddities
Message-ID: <C9SRB8QMNH1W62INIVP73FEHF07PL94.3d380afb@Home4>
MIME-Version: 1.0
Content-Type: text/plain; charset="iso-8859-1"

For use with Hot Dogs Right?
Dave

7/19/2002 8:34:28 AM, Tim ORourke <TORourke@kaiserft.com> wrote:

>A gud German mentor of mine made his own sauer kraut and his secrete was to
>have the dog pee in the crock!
>He made the best kraut bar none, best served with pork or smoked white fish.
>73 Tim KG4CHX
>

Date: Mon, 22 Jul 2002 11:00:57 -0000
From: "WI8W" <wi8w@arrl.net>
To: "QRP-L" <qrp-l@lehigh.edu>
Subject: [130356] 24 HR WWVB clock not holding UTC time
Message-ID: <00a101c2316f\$0ee33f60\$6401a8c0@attbi.com>
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Might have made a mistake here. The Sharp Atomic Clock I bought at Walmart will not hold the UTC time. There is a little button in the battery compartment that sets the clock to EST, CST, MST and PST. There is also a DST switch right next to it. There is no way to set this thing to anything but those time zones.

I set my clock to EST, set the DST switch to off and set the clock to UTC. This morning after the sync with WWVB the darn thing was displaying the EST time. I have to manually reset the thing to UTC.

Apparently this thing has a routine that automatically subtracts the correction between UTC and EST. Needless to say this clock will be put to use on top of the TV set and not in the shack.

Anyone else have this trouble with other WWVB clocks. Anyone know of one that will not do this?

73

Thom WI8W

Date: Mon, 22 Jul 2002 07:09:34 -0500
From: "Steve Yates - AA5TB" <aa5tb@arrl.net>
To: "Low Power Amateur Radio Discussion" <qrp-l@lehigh.edu>
Subject: [130357] Re: Ham shops in the Fort Worth area
Message-ID: <000f01c23178\$a7f0ae00\$5536a6d8@texas.net>
MIME-Version: 1.0
Content-Type: text/plain;
 charset="Windows-1252"
Content-Transfer-Encoding: 7bit

Kevin,

I'm glad that you had a good time checking out the electronics stores here

in Fort Worth. It sounds like you were staying only about 2 or 3 miles away from where I live! Oh well, I've been in the Arkansas mountains the last three days anyway so I probably would have missed you.

73,
Steve Yates - AA5TB

Fort Worth, TX EM12hu
<http://aa5tb.home.texas.net/>

Date: Mon, 22 Jul 2002 06:30:03 -0600 (MDT)
From: "Karl F. Larsen" <k5di@zianet.com>
To: "George, W5YR" <w5yr@att.net>
Cc: Low Power Amateur Radio Discussion <qrp-l@lehigh.edu>
Subject: [130358] Re: Clear the air: Conjugate Primer
Message-ID: <Pine.LNX.4.44.0207220627570.1955-1000000@Daisy.dog>
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII

On Sun, 21 Jul 2002, George, W5YR wrote:

> Karl, the May/June issue of QEX has an excellent article by Warren Bruene,
> W5OLY, on the subject of measuring transmitter impedance. He is a leading
> authority on this subject.

How do I get a copy of that issue of QEX? I don't get it here...let me check with some guys in town who might. Club meeting tonight.

--
Yours Truly,

- Karl F. Larsen, (505) 524-3303 -

Date: Mon, 22 Jul 2002 08:33:18 -0400
From: Kenneth Hoglund <hoglund@wfu.edu>
To: Low Power Amateur Radio Discussion <qrp-l@lehigh.edu>
Subject: [130359] 24hr WWVB Clock and Wal-Mart
Message-ID: <3D3BFB8E.4F0B3DCA@wfu.edu>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii

Content-Transfer-Encoding: 7bit

Thanks to all for the heads-up on a WWVB clock special at Wal-Mart.

My son and I trundled off to our nearby enormous Wal-Mart for various odds and ends and also to hunt the elusive 'atomic clocks.' We found the two mentioned models (Sharp Tech and Oregon Scientific) at the watch counter in point-of-sale display boxes on the counter. Both were "new" and \$12.96.

Looking at the very sketchy instructions on the back, the Sharp Tech sounded like it could only be set for NA time zones. The Oregon Scientific had no 'zone' information on the back, but a nice overview of how the clock worked. My son thought it so cool he begged for one for himself (a teenager wanting an alarm clock!).

Bought two, got it home, opened it and the instructions only specify how to set it for North American zones (including Alaska!). But in fiddling with the mode setting, there are a full range of +/- GMT commands, including +0, or in other words, GMT/UTC. Following Melt Solder Steve's directions, placed it on the window sill and viola, the clock is merrily receiving WWV and calibrating itself.

Model number on the box is RM106A. Box is titled "radio controlled atomic alarm clock." Nice shack accessory for a cheap investment.

73

Ken KG4FGC

PS. Anyone know why the 'giant' Wal-Marts are calling their in-house eatery the "Radio Grill"??

Date: Mon, 22 Jul 2002 06:40:38 -0600 (MDT)
From: "Karl F. Larsen" <k5di@zianet.com>
To: Bill Coleman <aa4lr@arrl.net>
Cc: Low Power Amateur Radio Discussion <qrp-l@lehigh.edu>
Subject: [130360] How does reflected power work
Message-ID: <Pine.LNX.4.44.0207220631540.1955-100000@Daisy.dog>
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII

On Sun, 21 Jul 2002, Bill Coleman wrote:

> On 7/21/02 10:58 PM, Karl F. Larsen at k5di@zianet.com wrote:
>

> >James, your a Physics person I believe. A common tuner like the

> Actually, not. It gets reflected back down the line by the tuner. It
> never goes back to the transmitter.

Since the tuner is a bi-directional device why would reflected
power reflect off anything? It will not Bill.

>
> THINK about it. You put a directional coupler between your transmitter
> and the tuner. You read 100 watts in the forward direction. How many
> watts in the reverse? Since you have a perfect 1:1 SWR on this cable,
> you'll read zero watts in the reverse direction.
>

Yes the SWR gage says the output impedance is exactly 50 ohms as
close as it can read.

> The reflections are bounced back down the line by the tuner.

>

> > What happens to this reflected power?

>

> Assuming a lossless tuner, this reflected power is sent down the
> transmission line again.

>

>

The reflection off the tuner is simply impossible because it's a
bi-directional device. the reflected power will be converted to 50 +j0
by the tuner and feed to the transmitter.

It *MIGHT* be reflected there.

--

Yours Truly,

- Karl F. Larsen, (505) 524-3303 -

Date: Mon, 22 Jul 2002 06:48:17 -0600 (MDT)
From: "Karl F. Larsen" <k5di@zianet.com>
To: WI8W <wi8w@arrl.net>
Cc: Low Power Amateur Radio Discussion <qrp-l@lehigh.edu>
Subject: [130361] Re: 24 HR WWVB clock not holding UTC time
Message-ID: <Pine.LNX.4.44.0207220646130.1955-1000000@Daisy.dog>
MIME-Version: 1.0

Content-Type: TEXT/PLAIN; charset=US-ASCII

The clock you want is made by Oregon Research (in China) and it will let you choose an offset of zero. These clocks in my big Wal Mart were in the isle near the pharmacy for some reason....

On Mon, 22 Jul 2002, WI8W wrote:

> Might have made a mistake here. The Sharp Atomic Clock I bought at Walmart
> will not hold the UTC time. There is a little button in the battery
> compartment that sets the clock to EST, CST, MST and PST. There is also a
> DST switch right next to it. There is no way to set this thing to anything
> but those time zones.

>

> I set my clock to EST, set the DST switch to off and set the clock to UTC.
> This morning after the sync with WWVB the darn thing was displaying the EST
> time. I have to manually reset the thing to UTC.

>

> Apparently this thing has a routine that automatically subtracts the
> correction between UTC and EST. Needless to say this clock will be put to
> use on top of the TV set and not in the shack.

>

> Anyone else have this trouble with other WWVB clocks. Anyone know of one
> that will not do this?

>

> 73

>

> Thom WI8W

>

>

--

Yours Truly,

- Karl F. Larsen, (505) 524-3303 -

Date: Mon, 22 Jul 2002 07:42:05 -0500

From: "KELL, TED (JSC-MV) (LM)" <ted.kell1@jsc.nasa.gov>

To: "Oleg V. Borodin" <master72@lipetsk.ru>, QRPp-I@yahoogroups.com,
QRP-L <qrp-l@lehigh.edu>

Subject: [130362] RE: [QRPp-I] Micro-80 kits

Message-ID: <2D9B911C30EC3340810DE817507983670446D4EC@jsc-mail04.jsc.nasa.gov>

MIME-Version: 1.0

Content-Type: text/plain;
charset="koi8-r"

Oleg,

If I wanted to _pay_ for one, how much are they?

N3Ted

> -----Original Message-----
> From: Oleg V. Borodin [mailto:master72@lipetsk.ru]
> Sent: Sunday, July 21, 2002 8:51 AM
> To: QRPp-I@yahoogroups.com; QRP-L
> Subject: [QRPp-I] Micro-80 kits
>
>
> Dear friends!
>
> I receive some messages about a problems with money transfer
> for me. I did
> not know befor about so high Bank charges for transfer. The
> who want to pay
> for kits, please make a transfer via PayPal for my friend
> (and Treasure,
> hi) George Gingell, K3TKS to "George Gingell, K3TKS" at
> <<https://paypal.com/>>
> <k3tks@abs.net> and inform me also by e-mail.
>
> I have about 80 orders for the time, all kits will be send
> for customers,
> don't worry. But it would be isn't so quick because I cann't
> paying the post
> tax at once, sorry. I think it would be during a month. After
> I send each
> parcel I inform the customer about a date I send. Wait, please.
> Thanks for all who interesting for Micro-80!
>
> BTW, anybody else who wish get a FREE Micro-80 trcvr kit -
> you have a time
> yet to make your orders!
> You did not risk any way!
> The best wishes for ALL!
>
>
> 72! de RV3GM/QRP Oleg V. Borodin
> QRP-ARCI, G-QRP, QRPp-I, QRP-Master, Hawaii-QRP, AGCW-DL etc...
> www.qsl.net/rv3gm/
>

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>
>
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>
>

Date: Mon, 22 Jul 2002 08:47:11 -0400
From: "Steve Lawrence" <Steve.Lawrence@itwfeg.com>
To: wi8w@arrl.net
Cc: qrp-l@lehigh.edu
Subject: [130363] Re: 24 HR WWVB clock not holding UTC time
Message-ID: <0FA4644114.79D90E18-0N85256BFE.0044F74A-85256BFE.00463CA9@itwfeg.com>
MIME-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

Thom,
You have discovered an interesting "feature" of many of these clocks designed apparently for "normal humans". It took me a long time to find an atomic radio clock that...

- 1.) Permitted setting to UTC (and remained there, yet while syncing nightly to WWVB here in Ohio)
- 2.) Has a display switchable to 24hr format.

Few atomic clocks will do the above!

(Oh, and I was interested in a small, possibly portable clock as well.)

By chance, a while back I found the answer at the Cincinnati Bass Pro Shop, of all places. A travel clock, made by Lacrosse, fits the bill nicely --- albeit at a price double the Walmart special recently mentioned on QRP-L! The following URL is the clock I acquired (although not from this source, which I have no experience):

<http://www.atomic-clocks.com/lactecdigtra.html>

This is a compact clock, that folds up into itself.

I suspect that several of the MFJ clocks will set/hold/sync UTC. You might check these out too.

Usual disclaimer: no interest in Bass Pro, or atomic-clocks.com, etc.

73,
Steve
aa8af

"WI8W" <wi8w@arrl.net>
Sent by: owner-qrp-l@Lehigh.EDU
07/22/2002 07:00 AM
Please respond to wi8w

To: "Low Power Amateur Radio Discussion" <qrp-l@Lehigh.EDU>
cc:
Subject: 24 HR WWVB clock not holding UTC time

Might have made a mistake here. The Sharp Atomic Clock I bought at Walmart will not hold the UTC time. There is a little button in the battery compartment that sets the clock to EST, CST, MST and PST. There is also a DST switch right next to it. There is no way to set this thing to anything but those time zones.

I set my clock to EST, set the DST switch to off and set the clock to UTC.

This morning after the sync with WWVB the darn thing was displaying the EST time. I have to manually reset the thing to UTC.

Apparently this thing has a routine that automatically subtracts the correction between UTC and EST. Needless to say this clock will be put to use on top of the TV set and not in the shack.

Anyone else have this trouble with other WWVB clocks. Anyone know of one that will not do this?

73

Thom WI8W

Date: Mon, 22 Jul 2002 07:48:55 -0500
From: Chuck Carpenter <w5usj@9plus.net>
To: 50mhz@topica.com, vhf@w6yx.stanford.edu, qrp-l@lehigh.edu
Subject: [130364] [OT] Yaesu Rotor Quit
Message-ID: <3.0.2.32.20020722074855.00809420@mail.9plus.net>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

Folks,

My fairly new but out-of-warranty Yaesu G-450A rotor quit rotating in the left (CCW) direction this week end. It still rotates in the right (CW) direction. (Just before the CQ VHF contest started.)

Previous to quitting, I was hearing a brief static burst (arcing?) when I pressed the left rotation lever.

Anyone with similar experience with this rotor? Any known good Yaesu rotor repair sources?

Email Alt: w5usj@arrl.net, w5usj@go.com

Chuck Carpenter, W5USJ, Point, Rains Co., TX - EM22cv, NETXQRP #1
QRP-ARCI #5422, QRP-L #1306, QRPp-I #115, ARS #1280, SOC #57
Zombie #759, COG #11, 6 Club #201, NETXQRP <http://www.netxqrp.org>

Date: Mon, 22 Jul 2002 08:51:08 -0400
From: W2AGN <w2agn@w2agn.net>
To: Low Power Amateur Radio Discussion <qrp-l@lehigh.edu>
Subject: [130365] Re: How does reflected power work
Message-ID: <3D3BC77C.14173.12E64B52@localhost>
MIME-version: 1.0
Content-type: text/plain; charset=US-ASCII
Content-transfer-encoding: 7BIT
Content-description: Mail message body

On 22 Jul 2002 at 6:40, Karl F. Larsen wrote:

> On Sun, 21 Jul 2002, Bill Coleman wrote:
>
> > On 7/21/02 10:58 PM, Karl F. Larsen at k5di@zianet.com wrote:
> >
> > > James, your a Physics person I believe. A common tuner like the
>
> > Actually, not. It gets reflected back down the line by the tuner. It
> > never goes back to the transmitter.
>
> Since the tuner is a bi-directional device why would reflected
> power reflect off anything? It will not Bill.
>
>
> >
> > THINK about it. You put a directional coupler between your transmitter
> > and the tuner. You read 100 watts in the forward direction. How many
> > watts in the reverse? Since you have a perfect 1:1 SWR on this cable,
> > you'll read zero watts in the reverse direction.
> >
> Yes the SWR gage says the output impedance is exactly 50 ohms as
> close as it can read.
>
>
> > The reflections are bounced back down the line by the tuner.
> >
> > > What happens to this reflected power?
> >
> > Assuming a lossless tuner, this reflected power is sent down the
> > transmission line again.
> >
> >
> The reflection off the tuner is simply impossible because it's a
> bi-directional device. the reflected power will be converted to 50 +j0
> by the tuner and feed to the transmitter.
>

> It *MIGHT* be reflected there.

>

> --

Come on Karl, THINK before opening your mouth! The scenario had the tuner set so there was NO reflected power between the tuner and the transmitter. So there would be

no power reflected by the transmitter. On the other hand, the SWR on the line TO the tuner might be 10:1 or whatever. That reflected power is certainly not going back to

the transmitter. It will be radiated by the feedline/antenna. Where do you get this bidirectional device stuff. Not an expert here, but a tuner has IN and OUT. If you hook it up

backwards, it doesn't work, it is NOT bidirectional.

--

/ \ / \ / \ / \ / \ John L. Sielke
(W)(2)(A)(G)(N) <http://www.w2agn.net>
_ / _ / _ / _ / _ / ARCI, NJQRP, ARQrp, GQRP, RSGB
Ex- K3HLU, W7JEF, W4MPC, N4JS

Date: Mon, 22 Jul 2002 08:53:06 -0400 (EDT)
From: Thom LaCosta <baltimoremd@baltimoremd.com>
To: Kenneth Hoglund <hoglund@wfu.edu>
Cc: Low Power Amateur Radio Discussion <qrp-1@lehigh.edu>
Subject: [130366] Re: 24hr WWVB Clock and Wal-Mart
Message-ID: <20020722084957.F7262-100000@unix1.vhost.min.net>
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII

On Mon, 22 Jul 2002, Kenneth Hoglund wrote:

> Thanks to all for the heads-up on a WWVB clock special at Wal-Mart.

I bought an Oregon Scientific a few minutes ago...hating to waste money and despising "customer service" time traps, I simply asked the clerk if I could open the box to read the instructions....and when she cheerily said, "Of course", I found the +- offset function.

Pays to ask

> > PS. Anyone know why the 'giant' Wal-Marts are calling their in-house
> eatery the "Radio Grill"??

Hmm, if the new menu item is Mojo, then you know there's a tie-in between Elecraft and Wal-Mart.

73,

Thom

Date: Mon, 22 Jul 2002 09:05:21 -0400
From: Ray Sills <raysills@1stconnect.com>
To: QRP list <qrp-l@lehigh.edu>
Subject: [130367] Re: Clear the air: Conjugate Primer
Message-ID: <B9617AA1.1252A%raysills@1stConnect.com>
Mime-version: 1.0
Content-type: text/plain; charset="US-ASCII"
Content-transfer-encoding: 7bit

>
>> What happens to this reflected power?
>
> Assuming a lossless tuner, this reflected power is sent down the
> transmission line again.
>
>
>
> Bill Coleman, AA4LR, PP-ASEL Mail: aa4lr@arrl.net

And the reflected power will also be radiated by the antenna, minus any loss in the feedline, which becomes heat. That's why high SWR is not of great concern if you have LOW LOSS feedline... like open wire line.

73 de Ray
K2ULR
FN20t1
Mac user

Date: Mon, 22 Jul 2002 09:06:06 -0400
From: Bill Coleman <aa4lr@arrl.net>
To: <w5yr@att.net>,
 "Low Power Amateur Radio Discussion" <qrp-l@lehigh.edu>
Subject: [130368] Re: Clear the air: Conjugate Primer
Message-ID: <20020722130738.BDKF10252.imf00bis.bellsouth.net@[192.168.0.20]>
Mime-Version: 1.0

Content-Type: text/plain; charset="US-ASCII"

On 7/22/02 12:14 AM, George, W5YR at w5yr@att.net wrote:

>And this is interesting, Bill: with that 1:1 SWR on the coax to the rig, it
>must be terminated in 50 ohms at the rig . . . does that "prove" that the
>source impedance of the rig is 50 ohms? Hmmmmm . . . since we tune all
>tuners for 1:1 in the transmitter line, does that mean that all
>transmitters have a 50-ohm source resistance?

George, I am not going down that path! I don't know what the problem these EE PhDs have with this source impedance and 50% efficiency, but it clearly doesn't apply to the typical ham transmitter. We see efficiencies well above 50%, so the observed results do NOT match the theoretical in that case. Therefore, the theory must be wrong. The source impedance of the transmitter must be something other than 50 ohms.

Bill Coleman, AA4LR, PP-ASEL Mail: aa4lr@arrl.net
Quote: "Not within a thousand years will man ever fly!"
 -- Wilbur Wright, 1901

Date: Mon, 22 Jul 2002 09:18:14 -0400
From: Bill Coleman <aa4lr@arrl.net>
To: <adeweiss@sd.value.net>,
 "Low Power Amateur Radio Discussion" <qrp-l@lehigh.edu>
Subject: [130369] Re: Conjugate matching
Message-ID: <20020722131946.BLCN10252.imf00bis.bellsouth.net@[192.168.0.20]>
Mime-Version: 1.0
Content-Type: text/plain; charset="US-ASCII"

On 7/20/02 1:18 AM, Ade Weiss W0RSP at adeweiss@sd.value.net wrote:

>Hi Bill & all:
>
>I'm no expert, but I'm not sure that the quoted text is correct if my
>reading of
>Maxwell serves me OK. Also, if this were true, every Smith Chart would have
>to be redrawn everytime a transmatch is included at the end of the feedline.

Huh? Why?

>First, we start with the R/X corrdinates at the antenna feedpoint and
>enter that

>onto the Smith Chart. Then we rotate back to the input section of the
>feedline,
>then we put in a transmatch to bring the input end of the feedline to
>the non-reactive, $Z(0)$ state. The starting position is determined solely by
>the antenna's feedpoint impedance and the feedlines characteristic
>impedance. Both quantities are defined by the physical structure (including
>the antenna's position in an environment).

OK.

>The magnitude of mismatch between the antenna feedpoint and end of
>the feedline cannot be modified by doing anything at the input end of
>the feedline. That mismatch determines the impedance that is seen at
>the input of the feedline. You can transform that to the correct $R \pm j0$,
>but that doesn't change anything at the antenna end.

Right. You still have a mismatch. Which means you still have reflections.
They don't go away in a conjugate match condition.

>I think the key in the quoted passage is "a net system reactance of zero."
>The
>bottom line is that the transmitter sees a non-reactive load, but that is not
>the same as the transmission line seeing a perfect matching load where it
>is connected to the antenna.

I never said the transmission sees its characteristic impedance. Indeed,
the transmission line is carrying a complex impedance in both directions,
an impedance very likely different than its characteristic impedance.
However, the imaginary (reactive) parts of the impedance cancel, due to
the entire system being at resonance.

>Even so, maximum transfer of power into
>the feedline will occur with a conjugate match at the input end. Then the
>mismatch at the feedpoint causes reflections that absorb power.

Who says reflections absorb power?

If we can put in a lossless feedline, and a lossless transmatch, those
reflections will not be absorbed anywhere. They will be reflected back
toward the antenna by the transmatch. So long as we eliminate loss in the
feedline and matching network, 100% of the power delivered to the
transmatch will be radiated (or dissipated) in the antenna.

Granted, on typical feedlines, losses increase when the reflections (eg
SWR) are present. For some feedlines (eg open wire), losses are usually
low enough that the additional loss due to reflections is negligible.

>Maxwell's

>writings make much of loss due to the reflections. Reflections only happen
>in a mismatched condition. In other words, they usually always happen
>because of the feedpoint/feedline mismatch.

Yup.

>Something like that.

>

>Interesting stuff. Bottom Line, tho, is getting as much power into the
>feedline
>as we can, and that requires the conjugate match at the input end of the
>feedline. If the transmatch could create a non-reactive connection between
>the feedline and antenna, then there would be no point whatever in cutting
>an antenna to dimension. Yet we all know that a 26ft dipole doesn't work as
>well as a 136ft dipole on 80 meters no matter what kind of tuner we use.

Why not? If I could use lossless components, you wouldn't see much of a
difference between the two. (The smaller dipole would have a different
pattern, so you might see a bit of different directivity) Without loss,
either system would be 100% efficient.

>Reflections cause loss.

NO! Reflections may enhance some of the losses that are already present.
They don't "cause" the loss. The losses have to be there to start with.
Minimize that loss, and the reflections don't cost so much as to be
problematic.

Bill Coleman, AA4LR, PP-ASEL Mail: aa4lr@arrl.net
Quote: "Not within a thousand years will man ever fly!"
 -- Wilbur Wright, 1901

Date: Mon, 22 Jul 2002 09:24:09 -0400 (EDT)
From: Thom LaCosta <baltimoremd@baltimoremd.com>
To: "Lofstead, Jerry" <Jerry.Lofstead@McKesson.com>
Cc: Low Power Amateur Radio Discussion <grp-l@lehigh.edu>
Subject: [130370] Re: Wal-Mart "Radio Grill"
Message-ID: <20020722092337.D11770-1000000@unix1.vhost.min.net>
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII

On Mon, 22 Jul 2002, Lofstead, Jerry wrote:

>

> It's because the serve "HAMburgers"

Arghhhhhhhhhhhhhhhhhhhhhhhhhhhhhhhhh!

baltimoremd@baltimoremd.com
<http://www.baltimoremd.com/>
<http://www.baltimorehon.com/>
<http://www.zerobeat.net>

Thom LaCosta K3HRN Webmaster
Baltimore's Home Page
Home of the Baltimore Lexicon
Home of The QRP Web Ring
and Drake Mail List Pages

Date: Mon, 22 Jul 2002 08:22:51 -0500
From: Karl Kanalz <kkanalz@gcecispc.com>
To: "'wi8w@arrl.net'" <wi8w@arrl.net>,
Low Power Amateur Radio Discussion <qrp-l@lehigh.edu>
Subject: [130371] RE: 24 HR WWVB clock not holding UTC time
Message-ID: <01C2315B.146762E0@KKANALZ>

Absolutely NONE of the "atomic clocks" (that is, those synch'd with WWVB) that have only EST/CST/MST/PST will "hold" an erroneous time setting when the clock goes into it's "synchronizing" cycle, whether you have the DST switch "on" or "off" !! Unless you have a "UTC" position (in addition to the U.S. time zone settings) in the clock setup, I'm afraid that you're "dead in the water"

If you don't want a unique clock on top of your TV set, then I suggest you return it to Wally-Mart and be done with it....

Karl K - W8TIF
McKinney, Texas

P.S. My two clocks (both of which have a "UTC" selection) are made by "SkyScan" and work perfectly!

-----Original Message-----

From: WI8W [SMTP:wi8w@arrl.net]
Sent: Monday, July 22, 2002 6:01 AM
To: Low Power Amateur Radio Discussion
Subject: 24 HR WWVB clock not holding UTC time

Might have made a mistake here. The Sharp Atomic Clock I bought at Walmart will not hold the UTC time. There is a little button in the battery compartment that sets the clock to EST, CST, MST and PST. There is also a DST switch right next to it. There is no way to set this thing to anything but those time zones.

I set my clock to EST, set the DST switch to off and set the clock to UTC. This morning after the sync with WWVB the darn thing was displaying the EST time. I have to manually reset the thing to UTC.

Apparently this thing has a routine that automatically subtracts the correction between UTC and EST. Needless to say this clock will be put to use on top of the TV set and not in the shack.

Anyone else have this trouble with other WWVB clocks. Anyone know of one that will not do this?

73

Thom WI8W

Date: Sat, 6 Jul 2002 07:22:21 -0700
From: "Chris Wagner" <mm1esg@compuserve.de>
To: <grp-1@lehigh.edu>
Subject: [130372] Tuner related losses are h u g e - some OM prefer a moderate SWR
Message-ID: <007801c224f8\$8c834e20\$451babac@1wqq90j>
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Hi All,

a friend made EMV measurements and stumbled across the fact that his tuner cause unacceptably high losses. Henceforth, he recommended to opt for a SWR of 3 rather than accept these losses. From a practical standpoint, at certain parts on a vertical antenna, the SWR is astronomical, limiting the a c t u a l l y r a d i a t e d H F.

Who can corroborate the above findings? For QRPP, I wlt try avoiding tuner-related losses. Has someone measured the radiated HF of a Rock-Mite -vs- one using NorCal's BLT or asked a buddy to report any difference?

As a beginner, I ask forgiveness if I got it wrong. No offence meant!

Some reports (please direct in case this is an old hat) of the Rock-Mite would be appreciated (i just rejoined the list). And has someone compared

it to the SMK-1? Mni tnx! 72 de Chris mm1esg / kf6vci

Date: Mon, 22 Jul 2002 22:31:06 -0400
From: "ss lyon" <sslyon@megalink.net>
To: "chat qrp" <qrp-1@lehigh.edu>
Subject: [130373] Matching vs Kibitzing
Message-ID: <006301c231f0\$fffedcc0\$aac7e742@megalink.net>
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

It's a great treat to tune in on the discussion re theory and applications for antenna system matching. Much has been and can be learned including why experts can disagree. The generosity (and endurance) of some of our informed listmembers is a real gift. I don't get tired of real discussion. I get tired, embarrassed and surprised, really, buy a few in our group who "contribute" nothing but childish baiting and kibitzing, thus threatening not only this but future learning opportunities that may come our way as well.

I just want to thank the good guys and hope they can deal with the dunces while the rest of us pick up on some knowledge.

73/72
AA1MY

Date: Mon, 22 Jul 2002 10:47:54 -0400
From: Bill Coleman <aa4lr@arrl.net>
To: "Karl F. Larsen" <k5di@zianet.com>
Cc: "Low Power Amateur Radio Discussion" <qrp-1@lehigh.edu>
Subject: [130374] Re: How does reflected power work
Message-ID: <20020722144931.VTX11646.imf07bis.bellsouth.net@[192.168.0.20]>
Mime-Version: 1.0
Content-Type: text/plain; charset="US-ASCII"

On 7/22/02 8:40 AM, Karl F. Larsen at k5di@zianet.com wrote:

>On Sun, 21 Jul 2002, Bill Coleman wrote:

>

>> On 7/21/02 10:58 PM, Karl F. Larsen at k5di@zianet.com wrote:

>>

>> >James, your a Physics person I believe. A common tuner like the

>
>> Actually, not. It gets reflected back down the line by the tuner. It
>> never goes back to the transmitter.
>
> Since the tuner is a bi-directional device why would reflected
>power reflect off anything? It will not Bill.

It does.

>> THINK about it. You put a directional coupler between your transmitter
>> and the tuner. You read 100 watts in the forward direction. How many
>> watts in the reverse? Since you have a perfect 1:1 SWR on this cable,
>> you'll read zero watts in the reverse direction.
>>
> Yes the SWR gage says the output impedance is exactly 50 ohms as
>close as it can read.

I didn't say a SWR meter -- I said a directional coupler. (Although you
can use a directional coupler to compute SWR)

>> The reflections are bounced back down the line by the tuner.
>>
>> > What happens to this reflected power?
>>
>> Assuming a lossless tuner, this reflected power is sent down the
>> transmission line again.
>>
>>
> The reflection off the tuner is simply impossible because it's a
>bi-directional device. the reflected power will be converted to 50 +j0
>by the tuner and feed to the transmitter.

Walt Maxwell can do a better job of explaining this than me. But, trust
me, Karl, the reflections are bounced back down the line to the antenna
by the tuner.

The reflection CANNOT be fed back to the transmitter, since a directional
coupler will PROVE that ZERO power is being fed back to the transmitter.

The reflection CANNOT be absorbed by the tuner, since a thermometer will
PROVE that there is insufficient temperature rise to account for the
power being.

> It *MIGHT* be reflected there.

It is reflected. A directional coupler on the output transmission line
would prove it (although building a directional coupler for a complex
unknown impedance is a considerable technical challenge).

Bill Coleman, AA4LR, PP-ASEL Mail: aa4lr@arrl.net
Quote: "Not within a thousand years will man ever fly!"
 -- Wilbur Wright, 1901

Date: Mon, 22 Jul 2002 10:54:31 -0400
From: Bill Coleman <aa4lr@arrl.net>
To: <w2agn@w2agn.net>,
 "Low Power Amateur Radio Discussion" <qrp-1@lehigh.edu>
Subject: [130375] Re: How does reflected power work
Message-ID: <20020722145604.CLHR1189.imf04bis.bellsouth.net@[192.168.0.20]>
Mime-Version: 1.0
Content-Type: text/plain; charset="US-ASCII"

On 7/22/02 8:51 AM, W2AGN at w2agn@w2agn.net wrote:

>Come on Karl, THINK before opening your mouth! The scenario had the tuner
>set so there was NO reflected power between the tuner and the transmitter.
>So there would be
>no power reflected by the transmitter.

Indeed.

> On the other hand, the SWR on the
>line TO the tuner might be 10:1 or whatever. That reflected power is
>certainly not going back to
>the transmitter.

Indeed.

>It will be radiated by the feedline/antenna.

Or, it could be dissipated in the tuner. But it isn't.

>Where do you
>get this bidirectional device stuff. Not an expert here, but a tuner has
>IN and OUT. If you hook it up
>backwards, it doesn't work, it is NOT bidirectional.

John, there's nothing inherent in a tuner that it would not work
backwards. It's just a bunch of components that don't really care where
the power is coming from.

The fact is, when adjusted so the input terminal presents a 50 ohm resistive impedance to the transmitter, the tuner provides exactly the right output to bounce any reflected energy back down the transmission line.

I suppose what no one has picked up on is that the energy delivered back to the antenna from the reflection suffers from some DELAY in being delivered. Due to the length of feedlines and the speed of electric current, this delay is negligible, even if the energy traverses the feedline many times.

Such delay does cause a phase smearing of transmitted pulses. This can be important in certain types of communications -- certainly not for typical amateur transmissions.

Bill Coleman, AA4LR, PP-ASEL Mail: aa4lr@arrl.net
Quote: "Not within a thousand years will man ever fly!"
 -- Wilbur Wright, 1901

Date: Mon, 22 Jul 2002 11:02:40 -0400
From: "w8diz" <w8diz@fpqrp.com>
To: "Low Power Amateur Radio Discussion" <qrp-l@lehigh.edu>,
 <fpqrp-l@fpqrp.com>
Subject: [130376] Info on new PLL kit
Message-ID: <004101c23190\$d7020280\$39d81b41@cinci.rr.com>
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Hi Gang,

I've put together a PCB, schematic, parts list and instructions for a PLL kit. The PLL will generate a +10dBm signal level, plenty to drive a diode ring mixer. Frequency coverage is such that all band from 160 to 10 meters can be accommodated, using an IF freq of 4.9152 MHz or it can be used as a stable sig-gen with coverage from 1 MHz to 30 MHz.

This is part of a larger project. 2 years ago we kitted 20 UGLY style construction "multiPIG" all band CW transceivers. 11 of the multiPIG rigs made it on the air. There were many folks at that time that wanted only a PCB version of the rig. Well, I've decided

to do the project ala PCB.

It's called the multiPIG+ The first part, the PLL is complete.
The PCBs will have plated-thru holes with solder mask and silk screen.
Some early details are here...
<http://www.kitsandparts.com/kits.html>

The old multiPIG project is here...
<http://www.fpqrp.com/pigg20/>

What I need to know, is how many of you fine folks would be willing to build...

1. the PLL kit ?
2. The complete multiPIG+

Cost of the PLL kit will be \$59 SHIPPED!
Cost of the complete MP+ is to be determined.

Anyway, I'm trying to get a "feel" for the demand of a PLL,
so I can order the correct number of PLL PCBs.

Thanks...

72 & "oo's" - Dieter (DIZ) Gentzow - W8DIZ - Loveland, Ohio
Clermont County - EM79uf - near Cincinnati; 39.218N - 84.305W
SOC-8 DLQRPAG-1454 ARCI-10226 ARS-781 QRPL-1998 10X-9389 CATT-26
FP#-1 <http://home.cinci.rr.com/w8diz> & <http://kitsandparts.com>

Date: Mon, 22 Jul 2002 11:05:49 -0400
From: "brian" <brian@iquest.net>
To: "w8diz" <w8diz@fpqrp.com>,
"Low Power Amateur Radio Discussion" <qrp-l@lehigh.edu>,
Subject: [130377] Re: [fpqrp] Info on new PLL kit
Message-ID: <001d01c23191\$4493c8b0\$3d05080a@BM17711>
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

So this PLL can be used as a VF0? (that's probably a dumb question, just consider the source).

If that's the case, then every experimenter can use one.

Put me down for a WHOLE HOG on the MP+ - let me know when and how much \$\$.

73

----- Original Message -----

From: "w8diz" <w8diz@fpqrp.com>

To: "Low Power Amateur Radio Discussion" <qrp-1@Lehigh.EDU>;
<fpqrp-1@fpqrp.com>

Sent: Monday, July 22, 2002 11:02 AM

Subject: [fpqrp] Info on new PLL kit

> Hi Gang,

>

> I've put together a PCB, schematic, parts list and instructions
> for a PLL kit. The PLL will generate a +10dBm signal level,
> plenty to drive a diode ring mixer. Frequency coverage is such
> that all band from 160 to 10 meters can be accommodated, using
> an IF freq of 4.9152 MHz or it can be used as a stable sig-gen
> with coverage from 1 MHz to 30 MHz.

>

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> time that wanted only a PCB version of the rig. Well, I've decided
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> so I can order the correct number of PLL PCBs.

>
> Thanks...
>
> 72 & "oo's" - Dieter (DIZ) Gentzow - W8DIZ - Loveland, Ohio
> Clermont County - EM79uf - near Cincinnati; 39.218N - 84.305W
> SOC-8 DLQRPAG-1454 ARCI-10226 ARS-781 QRPL-1998 10X-9389 CATT-26
> FP#-1 <http://home.cinci.rr.com/w8diz> & <http://kitsandparts.com>
>
>
> -To unsubscribe, mail to majordomo@fpqrp.com, msg: unsubscribe fpqrp-l -
>

Date: Mon, 22 Jul 2002 10:14:16 -0500
From: "George, W5YR" <w5yr@att.net>
To: aa4lr@arrl.net
Cc: Low Power Amateur Radio Discussion <qrp-l@lehigh.edu>
Subject: [130378] Re: Clear the air: Conjugate Primer
Message-ID: <3D3C2148.6E74B6E3@att.net>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

Absolutely, Bill! And the reason it doesn't apply is that the transmitters are not loaded for maximum power transfer which inevitably provides only 50% efficiency. So, if we observe a higher efficiency, we have prima facie evidence that we are NOT loading for maximum power transfer but rather providing a different load - the one required for the transmitter to meet its performance specs.

No, the theory is not wrong - it is exactly right and it is confirming that our loads are not for Maximum Power Transfer. And that indirectly suggests that the actual source impedance is other than 50 ohms.

73/72/oo, George W5YR - the Yellow Rose of Texas
Fairview, TX 30 mi NE of Dallas in Collin county EM13qe
Amateur Radio W5YR, in the 56th year and it just keeps getting better!
QRP-L 1373 NETXQRP 6 SOC 262 COG 8 FPQRP 404 TEN-X 11771 I-LINK 11735
Icom IC-756PRO #02121 Kachina 505 DSP #91900556 Icom IC-765 #02437

Bill Coleman wrote:

>
> On 7/22/02 12:14 AM, George, W5YR at w5yr@att.net wrote:
>
> >And this is interesting, Bill: with that 1:1 SWR on the coax to the rig, it

> >must be terminated in 50 ohms at the rig . . . does that "prove" that the
> >source impedance of the rig is 50 ohms? Hmmmmm . . . since we tune all
> >tuners for 1:1 in the transmitter line, does that mean that all
> >transmitters have a 50-ohm source resistance?
>
> George, I am not going down that path! I don't know what the problem
> these EE PhDs have with this source impedance and 50% efficiency, but it
> clearly doesn't apply to the typical ham transmitter. We see efficiencies
> well above 50%, so the observed results do NOT match the theoretical in
> that case. Therefore, the theory must be wrong. The source impedance of
> the transmitter must be something other than 50 ohms.

Date: Mon, 22 Jul 2002 11:24:42 -0400
From: Bill Coleman <aa4lr@arrl.net>
To: "George, W5YR" <w5yr@att.net>
Cc: "Low Power Amateur Radio Discussion" <qrp-l@lehigh.edu>
Subject: [130379] Re: Clear the air: Conjugate Primer
Message-ID: <20020722152442.IQXE1173.imf26bis.bellsouth.net@[192.168.0.20]>
Mime-Version: 1.0
Content-Type: text/plain; charset="US-ASCII"

On 7/22/02 11:14 AM, George, W5YR at w5yr@att.net wrote:

>Absolutely, Bill! And the reason it doesn't apply is that the transmitters
>are not loaded for maximum power transfer which inevitably provides only
>50% efficiency. So, if we observe a higher efficiency, we have prima facie
>evidence that we are NOT loading for maximum power transfer but rather
>providing a different load - the one required for the transmitter to meet
>its performance specs.

I'm NOT an EE. (surprise!)

I really don't understand the fascination with a condition known as
"Maximum Power Transfer" when the transfer is only 50% efficient.
Especially when other conditions are known to exist that offer greater
than 50% efficiency. Seems to me that you could deliver MORE power by
being more efficient.

But maybe it has something to do with an obscure EE theoretical equation
that I'm not familiar with it.

Frankly, I don't lose any sleep worrying what my transmitters source
impedance is....

Bill Coleman, AA4LR, PP-ASEL Mail: aa4lr@arrl.net
Quote: "Not within a thousand years will man ever fly!"
 -- Wilbur Wright, 1901

Date: Mon, 22 Jul 2002 10:27:35 -0500
From: "George, W5YR" <w5yr@att.net>
To: "Karl F. Larsen" <k5di@zianet.com>
Cc: Low Power Amateur Radio Discussion <qrp-l@lehigh.edu>
Subject: [130380] Re: Clear the air: Conjugate Primer
Message-ID: <3D3C2467.2E37F9AF@att.net>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

Karl, I would bet that ARRL would send you a reprint of that article for a small fee. You might give them a call or email and see . . . or contact Ed Hare directly and see if he will make you a copy.

73/72/oo, George W5YR - the Yellow Rose of Texas
Fairview, TX 30 mi NE of Dallas in Collin county EM13qe
Amateur Radio W5YR, in the 56th year and it just keeps getting better!
QRP-L 1373 NETXQRP 6 SOC 262 COG 8 FPQRP 404 TEN-X 11771 I-LINK 11735
Icom IC-756PRO #02121 Kachina 505 DSP #91900556 Icom IC-765 #02437

"Karl F. Larsen" wrote:

>
> On Sun, 21 Jul 2002, George, W5YR wrote:
>
> > Karl, the May/June issue of QEX has an excellent article by Warren Bruene,
> > W5OLY, on the subject of measuring transmitter impedance. He is a leading
> > authority on this subject.
>
> How do I get a copy of that issue of QEX? I don't get it
> here....let me check with some guys in town who might. Club meeting
> tonight.

Date: Mon, 22 Jul 2002 10:37:04 -0500
From: "George, W5YR" <w5yr@att.net>
To: Bill Coleman <aa4lr@arrl.net>
Cc: Low Power Amateur Radio Discussion <qrp-l@lehigh.edu>
Subject: [130381] Re: Clear the air: Conjugate Primer
Message-ID: <3D3C26A0.6FB98043@att.net>

MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

Neither do I and neither does the guy who designed it! He doesn't know either! <:}

The only reason that this Maximum Power Transfer thing keeps coming up is that is about the only instance of conjugate matching that most folks know anything about. It is freshman-level stuff at EE school, but for reasons such as you point out, it really has virtually no practical applications. Imagine what a power plant would look like if it were loaded for Maximum Power Transfer! <:}

I think that the reason it receives attention early in EE school is that it is an easy way to introduce the notion of impedance matching. It is literally a special case for which there are few real-world applications. But, it has some neat equations and gives freshman EE students a chance to use some of that calculus they have been studying to derive some more equations, etc.

Nope, unfortunately the superficial similarity between the Maximum Power Transfer theorem and the conjugate matching theorem has led to all sorts of confusion here. Best that we forget all about it since we never load a transmitter for Maximum Power Transfer, for reasons I have stated before.

73/72/00, George W5YR - the Yellow Rose of Texas
Fairview, TX 30 mi NE of Dallas in Collin county EM13qe
Amateur Radio W5YR, in the 56th year and it just keeps getting better!
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> than 50% efficiency. Seems to me that you could deliver MORE power by
> being more efficient.
>
> But maybe it has something to do with an obscure EE theoretical equation
> that I'm not familiar with it.
>
> Frankly, I don't lose any sleep worrying what my transmitters source
> impedance is....

Date: Mon, 22 Jul 2002 11:42:16 -0400 (EDT)
From: George Gingell <k3tks@u1.abs.net>
To: "Oleg V. Borodin" <master72@lipetsk.ru>
Cc: QRPp-I Club <QRPp-I@yahooogroups.com>, QRP-L <qrp-l@lehigh.edu>,
G-QRP Club E-mail Reflector <gqrp@onelist.com>,
Subject: [130382] Re: [QRPp-I] Micro-80 kits, Re: I.Q.S.F. (MDMW Club) {Long :^}
Message-ID: <20020722103339.S23204-100000@u1.abs.net>
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII

Dear QRP & QRPp Friends - QRO ALSO :^}

Oleg has asked me, and I have agreed, to act as his "Treasurer" for the Sale of His QRP Radio Kits. He is very anxious to sell enough kits to to earn the funds to purchase an ELECRAFT K2 Transceiver, Which I understand will also become the "HEART of U-QRP Club" which he hopes to re-activate this year.

I am also, at this time Announcing the formation of "I.Q.S.F."

[International QRPp Sponsorship Fund, A Non-Profit Fund].

The Fund will be Administered by The "MARYLAND MILLIWATT Club", Which is being

Re-Activated at this time for this Primary purpose. [22 July 2002].

[K3TKS- Founder,President/Treasurer] <k3tks@abs.net> Telephone 301-572-6789
Office, Fax, Answering Machine.

Mailing Address Label:

George D. Gingell, Jr. K3TKS [MDMW IQSF]

3052 Fairland Road

Silver Spring, Maryland 20904-7117

All DONATIONS Appreciated, and I assure you that they will be used for the express Purposes of "The Promotion of QRP & QRPP Events Around the World."

Among these will be Club Membership (Subscription Sponsorship, or Direct Grants, to those individuals selected by MDMW Leadership Team).

There is also a thought to Affiliate with and/or Contribute to the F.A.R. [Foundation For Amateur Radio, Inc.] Amateur Radio Scholarship Program.

Details can be provided on request. We would love to See some Annual Scholastic Scholarships by F.A.R. in the Name of "QRP & QRPP".

Who knows, we might even be able to get "Donations from some of our Wonderful QRP Vendors?"

Rather than Large Donations, "Small Regular Donations of \$ 1.00 per Sale or a Very Small Percentage of Sales of QRP Rigs."

That would "Kill Two Birds with One Stone" We all share in the program by "SUPPORTING YOUR FAVORITE QRP Vendors"

Heck, I hope you are already doing that! :^}

Other potential uses of the fund (I.Q.S.F.) will be Annual QRPP Contest Awards and Trophy Sponsorship.

MDMW has Sponsored various QRP Trophies and Plaques in the past. A.R.R.L. Contests in particular.

Maryland Milliwatt Club QRP Reference Library, Donations Also Accepted.

This is NOT SPAM !!!!!!! although the Filters are likely to eat me alive. :^}

Thanks to the Moderators. This is a Limited Edition Announcement.

Please make your Check/Money Order out to "George D. Gingell"

and mail it to me at 3052 Fairland Road, Silver Spring, MD 20904-7117

OR Payment may be made via "PayPal" to George D. Gingell, K3TKS,

<k3tks@abs.net> <<https://secure.paypal.x.com/refer/pal=k3tks%40abs.net>>

QRPP Dx Tu, (C) 2002 K3TKS

Sir George, The First :^}

72 ES QRP DX TU (C) 1986, G. "Danny" Gingell, K3TKS@ abs.net

George D. Gingell, Jr. 3052 Fairland Road, Silver Spring, MD 20904-7117

On Sun, 21 Jul 2002, Oleg V. Borodin wrote: [EDITED by K3TKS]

> Dear friends!

>

> I receive some messages about a problems with money transfer for me.

>

> I did not know before about so high Bank charges for transfer.

>

> Those of you who want to pay for kits, please make a transfer via PayPal

>

> to the "PayPal Account" of my friend, and Treasurer , {Hi},

>

> George Gingell, K3TKS to "George Gingell, K3TKS" at <k3tks@abs.net>

>

>

> PLEASE INFORM ME ALSO by e-mail. "Oleg V. Borodin" <master72@lipetsk.ru>

>

> Or <rv3gm@qsl.net>

> [END of EDITING, by K3TKS]

> I have about 80 orders for the time, all kits will be send for customers,
> don't worry. But it would be isn't so quick because I cann't paying the post
> tax at once, sorry. I think it would be during a month. After I send each
> parcel I inform the customer about a date I send. Wait, please.

> Thanks for all who interesting for Micro-80!

>

> BTW, anybody else who wish get a FREE Micro-80 trcvr kit - you have a time
> yet to make your orders!
> You did not risk any way!
> The best wishes for ALL!
>
>
> 72! de RV3GM/QRP Oleg V. Borodin
> QRP-ARCI, G-QRP, QRPp-I, QRP-Master, Hawaii-QRP, AGCW-DL etc...
> www.qsl.net/rv3gm/

> email to "Oleg V. Borodin" <master72@lipetsk.ru>, also <rv3gm@qsl.net>

"72" = "Wishing You Good QRP" (C) 1991 Oleg Borodin, RV3GM

> To unsubscribe from this group, send an email to:
> QRPp-I-unsubscribe@yahoogroups.com
>
> Check out what's new at the
> QRPp International Radio Club's Web site:
> <http://www.QRPp-I.com>

Date: Mon, 22 Jul 2002 11:38:39 -0400
From: Steven Weber <kd1jv@moose.ncia.net>
To: w2eb@twcny.rr.com
Cc: qrp-l@lehigh.edu
Subject: [130383] Re: Linear amp biasing?
Message-ID: <3.0.6.32.20020722113839.007ad8b0@mailhost.ncia.net>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

>
> If I wanted to build a small (QRP) class AB linear amplifier, how
> would I know how much bias current to provide?

The bias (collector current) should be no more than 5-10% of the peak current expected. Any more than this can result in instability and excessive heat dissipation. For a 10 watt or so linear, a total bias current of 10-20 ma should be sufficient.

72,
Steve, KD1JV
"Melt Solder"
White Mountains of New Hampshire
<http://www.qsl.net/kd1jv/>

Date: Mon, 22 Jul 2002 11:24:15 -0400
From: Steven Weber <kd1jv@moose.ncia.net>
To: qrp-l@lehigh.edu
Subject: [130384] Re: How does reflected power work
Message-ID: <3.0.6.32.20020722112415.007a8a60@mailhost.ncia.net>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

> Where do you get this bidirectional device stuff. Not an expert here, but
a >tuner has IN and OUT. If you hook it up backwards, it doesn't work, it
is >NOT bidirectional.

>
Of course a tuner is bi-directional. In general, you can't hook it up
backwards due to the range of impedances it's designed to match is
different on the in and the out side. But it certainly passes signals and
matches impedances in both directions.

Now I would think when a tuner has been adjusted to a 1:1 match on the
transmitter side, the tuner has been adjusted to match (equal and opposite)
whatever impedance the feed line has. So, we now have a perfect match at
both the transmitter and feedline side of the tuner, hence, no SWR on
either side and hence, no reflected power on either side.

If this logic is faulty, I'm sure someone will correct it :-)

72,
Steve, KD1JV
"Melt Solder"
White Mountains of New Hampshire
<http://www.qsl.net/kd1jv/>

Date: Mon, 22 Jul 2002 08:55:34 -0700
From: "Bob Tellefsen" <n6wg@earthlink.net>
To: <qrp-l@lehigh.edu>
Subject: [130385] Re: 24 HR WWVB clock not holding UTC time
Message-ID: <MABBJOEABOILMKCJCLFCOEFLDHAA.n6wg@earthlink.net>
MIME-Version: 1.0

Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Thom
I'm using the Atomic Time Inc. model ET-31BD.

You can see it at <http://www.radiocontrolledclock.com/attimdualtim.html>

The upper display shows local time, standard or DST.
The lower display can be either date OR UTC. If you select UTC,
it locks to the upper display and you can see the seconds trip in
step with each other. Display is large enough to be read easily across a
room.

73, Bob N6WG

Date: Mon, 22 Jul 2002 12:15:35 -0400 (EDT)
From: George Gingell <k3tks@u1.abs.net>
To: "Oleg V. Borodin" <master72@lipetsk.ru>
Cc: QRPp-I Club <QRPp-I@yahoogroups.com>, QRP-L <qrp-l@lehigh.edu>
Subject: [130386] Re: [QRPp-I] Micro-80 kits Re: K3TKS U.S. Sales Manager
Message-ID: <20020722114808.G25876-1000000@u1.abs.net>
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII

Friends of Oleg,

I will be Accepting Funds in behalf of "Oleg V. Borodin" <master72@lipetsk.ru>

"Secure PayPal" Payments & Donations may be made via My PayPal Account.

Details Follow: Payment may be made via "PayPal" to George D. Gingell, K3TKS,
<k3tks@abs.net> <<https://secure.paypal.x.com/refer/pal=k3tks%40abs.net>>

I will also gladly accept other forms of payment Direct.

Please make your Check/Money Order out to "George D. Gingell"

and mail it to me at 3052 Fairland Road, Silver Spring, MD 20904-7117

NOTE on Check/M.O. "RV3GM" That will assure that Oleg. Gets proper Credit

to his "K2 Fund".

I might add that We are hoping to later add other Kits and Special QRPp Projects to our Offerings.

He also wishes to be able to afford QRP Club Memberships and American and British Amateur Radio Books and Periodicals.

These will be shared with Future Members of U-QRP Club which he plans to Re-Activate.

I am seeking for Membership #2 or better yet, #72 :^}

Oleg Will Announce the U-QRP Club Plan at a later Date. Now We are concentrating on the Micro-80 Kits, and other Fund Raisers for the Clubs.

MDMW Club and U-QRP Club will be one of the "First International QRP-p Club Affiliation Arrangements" Of Course QRPp-I is Hoped for third Member of the Plan. This does not replace "W.Q.F." More likely, we will at lease informally Affilliate with "W.Q.F."

IF YOU DON'T HAVE A PAYPAL ACCOUNT, Please use this to Obtain one and help us with the "Sign Up Bonus".

>From welcome@paypal.com Thu Oct 5 21:48:09 2000
Date: 5 Oct 2000 06:14:08 -0000
From: welcome@paypal.com
To: k3tks@abs.net
Subject: A reward for joining PayPal!

Dear George Gingell,

Thank you for joining PayPal! To express our appreciation, we will add \$5 to your account for everyone you refer to PayPal.

Just forward the email below to all your friends and family. When they click on the link to sign up, you'll get \$5 as soon as they verify their account!

Did you know you can send money online with X.com's PayPal service?

X.com's PayPal lets users send and receive money online.

Use PayPal to split restaurant tabs, collect club dues, pay friends for movie tickets, or buy an item at an online auction. PayPal charges the money to your credit card or bank account. It's faster, safer and easier than mailing a check.

As soon as you sign up and verify your account, PayPal will automatically add \$5 to your balance!

We're confident you'll want to use PayPal, but if not, you can transfer the money to your bank account at any time. No strings attached. Click on this link to sign up and see for yourself:

<https://secure.paypal.x.com/refer/pal=k3tks%40abs.net>
After signing up, you'll get an email like this to send to your friends and family. PayPal will give you \$5 for each friend you refer. It's that easy!

SINCERE THANKS [TKS] {22 July 2002}

QRPP Dx Tu, (C) 2002 K3TKS

Sir George, The First :^}

72 ES QRP DX TU (C) 1986, G. "Danny" Gingell, K3TKS@ abs.net
Former QRP A.R.C.I. Net Manager and CURRENT Board of Director Member.
Gingell & Company, Ltd. Small Business Telephone Systems, Handyman Services,
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"72" = "Wishing You Good QRP" (C) 1991 Oleg Borodin, RV3GM U-QRP Founder

Date: Mon, 22 Jul 2002 12:20:43 -0400
From: Bill Coleman <aa4lr@arrl.net>
To: <kd1jv@moose.ncia.net>,
 "Low Power Amateur Radio Discussion" <qrp-1@lehigh.edu>
Subject: [130387] Re: How does reflected power work
Message-ID: <20020722162215.TBHK19924.imf01bis.bellsouth.net@[192.168.0.20]>
Mime-Version: 1.0
Content-Type: text/plain; charset="US-ASCII"

On 7/22/02 11:24 AM, Steven Weber at kd1jv@moose.ncia.net wrote:

>Of course a tuner is bi-directional. In general, you can't hook it up
>backwards due to the range of impedances it's designed to match is
>different on the in and the out side. But it certainly passes signals and
>matches impedances in both directions.

Yup.

>Now I would think when a tuner has been adjusted to a 1:1 match on the
>transmitter side, the tuner has been adjusted to match (equal and opposite)
>whatever impedance the feed line has. So, we now have a perfect match at
>both the transmitter and feedline side of the tuner, hence, no SWR on
>either side and hence, no reflected power on either side.

Uh, you're correct that there is no SWR on the INPUT side, and no
reflected power, but there certainly may be considerable SWR on the
OUTPUT side, with lots of reflected power.

However, this whole discussion centers around the fact that SWR /
reflected power in a transmission line ALONE isn't necessarily
detrimental. That depends on the loss characteristics of your feedline.

Bill Coleman, AA4LR, PP-ASEL Mail: aa4lr@arrl.net
Quote: "Not within a thousand years will man ever fly!"
 -- Wilbur Wright, 1901

Date: Mon, 22 Jul 2002 10:25:03 -0600

From: William R Colbert <w5xe@juno.com>
To: qrp-l@lehigh.edu
Subject: [130388] Re: Matching vs Kibitzing
Message-ID: <20020722.102507.-387797.0.w5xe@juno.com>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

Seab, thank you for the words of wisdom and putting the right spin on recent discussions. I agree that for the most part, it has been an enlightening discussion providing a few pearls of learned facts.

Thanks again to you, and especially to Dr. Mc, George Nick, Bill, and the other contributors to the discussion.

73
Ray

"The more you read about politics, you got to admit that each party is worse than the other.
The one that's out always looks the best." -Will Rogers
Ray Colbert, W5XE, 00TC#3618, SOWP#1064M
NARTE-NCT2R QRP-ARCI 5784, El Paso, (FAR WEST) TEXAS

Date: Mon, 22 Jul 2002 12:34:08 -0400
From: "kw3u@warwick.net" <kw3u@warwick.net>
To: Low Power Amateur Radio Discussion <qrp-l@lehigh.edu>
Subject: [130389] wanted things
Message-ID: <3D3C33FF.659D3E8@warwick.net>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

Hi all;

Perhaps someone on the list has these or knows how to get them?
I was given an SB102 heathkit w/pwr sply and manuals..pwr sply cleaned up nice and voltages correct. now starting the cleanup of xcvr and see that
it will need three small rubber belts. Wud appreciate any info on them.
Also have scored well this hamfest season on FT-243 types for my novice xmtr collection and looking to obtain one or two crystal cases that
would hold them. I hear there are mil surplus around but I've not run across

any. condx not important. thanks Jim kw3u

Date: Mon, 22 Jul 2002 13:05:17 -0400
From: "Walt Amos" <k8cv@netzero.net>
To: "Messages Qrp-L" <qrp-l@lehigh.edu>, <kg6cyn@earthlink.net>
Subject: [130390] Re: Camping report from Pyramid Lake...(long)
Message-ID: <005f01c231a1\$f54b8ca0\$032c3b41@WALTK8CV>
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Think about it

now think a little bit more

What do you REALLY NEED ?

Well, at night you need 40 meters

In the day time you need 20 meters

oh oh, that's two antennas, but hey, you do get 15 for free right. You do remember that from your old novice days ?

so 246 / f in MC

two parallel dipoles feed with that stupid small coax rg-174u and only use about 35 feet of it as it is HI loss as all get out.

go for it, you can do it, you know it is the RIGHT THING TO DO

Sell the mp-1 for big bucks and take your girl to mickeydees for a scrumptious repast :-)

Walt K8CV Royal Oak, MI

----- Original Message -----

From: "Trevor Jacobs" <kg6cyn@earthlink.net>

To: "Low Power Amateur Radio Discussion" <qrp-1@Lehigh.EDU>
Sent: Sunday, July 21, 2002 5:57 PM
Subject: Camping report from Pyramid Lake...(long)

> Hi Gang,

>

> Well, wasn't exactly the best weekend as portable operations go, Hi. We
> arrived at the camp site around 10 PM, so setting up the station on the
> first night was out of the question, as we had the tent to put up and
> people to chat with that we hadn't seen in a while. I got up Saturday
> morning, and as everyone was heading to the lake, I figured that I'd get
> a few hours of radio time in. By the time I'd had breakfast, cleaned up,
> got the station set up (FT-817 and MP-1) and was ready to operate, it
> was close to 10 AM. I listened around on 10 thinking that there may be
> an opening, but nothing was heard. 15 was the same. This brings us to
> around 12:00. I decided to move down to 20 meters and see if I could
> hear any activity there. Didn't hear anything around 14.060, so I called
> CQ a few times with no takers. Then I moved up to the SSB portion of the
> band and heard a few strong stations chatting, so it appeared that the
> band was open. A few minutes later I heard Scott N00BA calling CQ from
> Aurora, CO. He was having a hard time receiving me, so we cut it short.
> At least I knew the rig was working though. I decided to call CQ a few
> times and Bob W2NGK/5 from Albuquerque, NM came back and mentioned that
> he had monitored my last QSO with Scott and that I was a solid 56 out
> his way and 100% readable, so I started to feel a little better, Hi.
> Right about that time, I decided to go back down to 14.060 and try to
> round up at least 1 CW QSO while the band was open. I heard quite a bit
> of activity and decided to listen for a signing station to pounce on,
> Hi! This approach seems to work the best for me, or answering a CQ. As I
> was listening to a very strong station, it sounded as though someone had
> just pulled the antenna down. All of a sudden, the band went completely
> dead, no CW, no Digital, no SSB, nothing. I checked WWV at 10 MHz, and
> there was nothing. I checked all of the bands and heard nothing. I knew
> that 1 of 2 things had just happened, and both would mean potentially no
> more radio for the day. Either A) the RX in my FT-817 had just bit it,
> or we had some kind of major solar event. Well, I gave my friend Dave
> WD4PLI a call on the phone, and had him fire up his rig. To both of our
> surprise, the bands were indeed completely dead, deader than I've ever
> heard them. Well, at this point, since the truck was in the shade, and
> all the kids were at the lake (quiet!) I decided to take a little nap
> and try again later. About an hour or so later the group from the lake
> showed up so we hung out for a bit and ate some lunch. During lunch, the
> wind really picked up, and before I could get to the MP-1 antenna that
> was set up on the top of my blazer, the wind blew it off the truck and
> snapped the top section of the whip off! Well I wasn't too happy about
> that, but I took some Gaf tape and taped the section back on and also
> did a better job of securing the tripod. Sure could have used a couple

> of small sand bags to secure the tripod, but I made do with what was
> available. Vern, I'll be calling you for a replacement whip soon. After
> we finished eating I re-tuned the antenna and listened around a bit to
> see if 20 meters had come back to life. Well, heard no CW at all still,
> but I did hear 1 station in GA, as the GA QSO Party was going on this
> weekend. Anyway, I gave W4CEB a shout and he came back with a 57 report.
> And that was all she wrote. After that QSO I ended up spending some time
> with our friends and drinking a few chilled 807's.

>

> As far as the camp site area goes, it's not too bad at all if you are in
> the Los Angeles area and want a location to get out of town for a
> weekend with a radio in tow. It's located on the 5 freeway up the Grape
> Vine. It took us a little under an hour from Burbank to get there. There
> are running water bathroom facilities, and a small store for ice and
> beverages and such. As far as antennas go, there are a few trees that
> you could get a dipole up into, but they probably peak only about 25 to
> 30'. You'd probably do better with a vertical, as there is plenty of
> space for radials. Also, there is a lack of shade in most camp sites
> during the day, we got lucky as the people that we were camping with
> knew this and reserved one that they knew had a few trees. As long as
> you bring some kind of shelter/awning to provide shade over the picnic
> table, you'll be fine. Oh, and one word on the picnic tables, don't
> think about moving them, as they are solid concrete! Also as many of you
> who camp probably know, there is a total ban on camp fires in CA this
> year due to all of the fires we've had so far. I'm not sure about the
> rest of the country, but I bet CO has a similar ban. Make sure that you
> take a small gas stove to cook on. The weather was typical for camping
> in this area, hot in the day and chilly at night, so bring some short
> pants for the day and some sweats for the evening.

>

> That's about it, was still a fun trip, even though the radio end of it
> didn't go quite as planned. The DSW never saw the light of day! I did
> realize on this trip, that I need to come up with some better strategy
> for portable antennas. The MP-1 is a great little antenna for 20 and
> above (heck, I've worked Japan on 10 meters with it at 2 watts!), but
> I'd like something for 30,40, and 80 as well that would be more
> efficient. The wire antennas generally do great also, but a lot of times
> (especially on the beach) there are no places to hang them. Anyway, food
> for thought. Hope everyone had a nice weekend, think I'm going to fire
> up the little 817 at home now for a couple of hours and try to scrape up
> a few QSO's. My CW is getting rusty, Hi!

>

> 73's Trev KG6CYN
> <http://home.earthlink.net/~kg6cyn>
> <http://www.qsl.net/kg6cyn>

>

>

>

>

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Sign Up Today! www.netzerolongdistance.com

Date: Mon, 22 Jul 2002 12:21:07 +0200
From: "Juanjo Pastor" <ec5aca@wanadoo.es>
To: "Low Power Amateur Radio Discussion" <qrp-l@lehigh.edu>
Subject: [130391] CQ East coast!
Message-ID: <000201c231a3\$50a7ce00\$6e33243e@fer>
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable

Hello everybody,

 This Friday I got only two but enjoyable QSOs: the first one with K2SB Steve in NJ with QR0 and 599 sigs. I didn't copy well but I guess he was using a 3 element triband yagi beam, too. And the second and more enjoyable one with the QRPL member and also QRP W3KC Chas from MD. He had respectable 579 sigs from a 4W K1 and a wire zepp antenna. My TT1320 has not a very exact dial and I spent some time figuring where to tune 14.060 (and I guess I was a bit off frequency). Anyway a 2 x QRP QSO is doable and I will be there again next Friday at 23:30 to 22:30 UTC. Hope to meet Chas again and maybe you...

73, 72 de Juanjo, EA5CHQ-EC5ACA. EA-QRP #104, G-QRP #9742,
QRP-L #1662.

Juanjo Pastor
C/San Roque, 4-1=BA
46460 Silla
SPAIN

e-mail: ea5chq@wanadoo.es
Tel.: +034 96 120 17 67
Movil: 651 35 35 11

Date: Mon, 22 Jul 2002 12:19:58 -0500

From: "Bill Coady" <N9LAE@amsat.org>
To: "Low Power Amateur Radio Discussion" <qrp-l@lehigh.edu>
Subject: [130392] 24 HR WWVB clock
Message-ID: <200207221219580190.011F5245@smtp.isplite.net>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"
Content-Transfer-Encoding: quoted-printable

Hi all:

***** REPLY SEPARATOR *****

On 7/22/02 at 8:47 AM Steve Lawrence wrote:

>(Oh, and I was interested in a small, possibly portable clock as well.)
>
>By chance, a while back I found the answer at the Cincinnati Bass Pro
>Shop, of all places. A travel clock, made by Lacrosse, fits the bill
>nicey --- albeit at a price double the Walmart special recently mentioned=

>on QRP-L! The following URL is the clock I acquired (although not from
>this source, which I have no experience):

I don't know about the quality of these either, but for those in the=
Midwest (and perhaps elsewhere) Shopko carries this line of clocks. The=
little portable was priced at \$19.99 and two wall clocks (smallish and=
extralarge) for 25 and 30 (I think...)

73
Bill, N9LAE
Wausau, WI

Date: Mon, 22 Jul 2002 13:31:11 -0400
From: David Hinerman <WD8CIV@worldnet.att.net>
To: qrp-l@lehigh.edu
Subject: [130393] homebrew audio xfmr?
Message-ID: <5.1.0.14.1.20020722132546.00a4cec0@ipostoffice.worldnet.att.net>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"; format=flowed

Folks,

The local Radio Shacks have let me down again, so it looks like I may need

to attempt to make my own audio output transformer. Has anyone here ever tried it with ferrites? I have a couple handful of small 43-mix toroid cores.

I know, transformers can be had by mail order. They can also be had by dismantling old transistor radios. Neither source will provide me with a transformer today.

But if you have a "tried it and was pleasantly surprised" story, I'd love to hear it. (If you have an "it won't work and here's why" story, thank you but I'm sure I'll find out myself soon enough.)

Thanks!

Dave

"You can fool some of the people all of the time. That's enough to make a living." - Lance Burton

Dave Hinerman
WD8CIV@worldnet.att.net

Date: Mon, 22 Jul 2002 10:35:14 -0700
From: "Trevor Jacobs" <kg6cyn@earthlink.net>
To: <k8cv@netzero.net>,
"Low Power Amateur Radio Discussion" <qrp-l@lehigh.edu>
Subject: [130394] Re: Camping report from Pyramid Lake...(long)
Message-ID: <00a401c231a6\$23938dc0\$7294b2d1@tjacobs>
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Hi Walt,

Heck I use wire antennas a bunch, and love em'. The problem as I had mentioned it, is the fact that there are no natural antenna supports in several of the places that we camp, so I'm thinking of either something on the order of an SLV or maybe buying a couple of those 33' light weight masts from Kanga to play with (any comments on those?). It doesn't have to be ultra light weight as most of the camping we do is car camping and the most I'd have to haul the stuff is like 1/4 mile. Now day hiking is a different story, but I'm talking about car camping here. My favorite antenna for camping is my mini Center Fed Zep. 100' of #24 stranded fed with the cheapest Radio Shack TV Twin Lead that you can

buy, tuned with a little MFJ job. I've had great luck with that one camping, when there's a place to hang it. That was the main reason that I bought the little MP-1, you can set it up anywhere. I've had good luck with it on 20 through 10 (especially 10 when it's open). Also, it's the ONLY way I can get on the air at the YL's condo down in Long Beach. They have restrictions on antennas.

73's Trev KG6CYN

<http://home.earthlink.net/~kg6cyn>

<http://www.qsl.net/kg6cyn>

----- Original Message -----

From: Walt Amos <k8cv@netzero.net>

To: Low Power Amateur Radio Discussion <qrp-1@Lehigh.EDU>

Sent: Monday, July 22, 2002 10:05 AM

Subject: Re: Camping report from Pyramid Lake...(long)

> Think about it

>

>

> now think a little bit more

>

>

> What do you REALLY NEED ?

>

>

> Well, at night you need 40 meters

>

>

> In the day time you need 20 meters

>

>

> oh oh, that's two antennas, but hey, you do get 15 for free right. You do

> remember that from your old novice days ?

>

> so $246 / f$ in MC

>

>

> two parallel dipoles feed with that stupid small coax rg-174u and only use

> about 35 feet of it as it is HI loss as all get out.

>

> go for it, you can do it, you know it is the RIGHT THING TO DO

>

> Sell the mp-1 for big bucks and take your girl to mickeydees for a
> scrumptious repast :-)
>
> Walt K8CV Royal Oak, MI
.com

Date: Mon, 22 Jul 2002 13:23:56 -0500
From: "George, W5YR" <w5yr@att.net>
To: WD8CIV@worldnet.att.net
Cc: Low Power Amateur Radio Discussion <qrp-l@lehigh.edu>
Subject: [130395] Re: homebrew audio xfmr?
Message-ID: <3D3C4DBC.8816E523@att.net>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

What are you looking for, Dave?

RS has an excellent 1:1 isolation transformer - actually two in one package
- that I use to isolate my computer soundcard from the radio, etc. It is
the 270-054 Ground Loop Isolator. Take a look - \$14.99 in the auto sound
department. Good frequency range - 20 Hz to just under 20,000 Hz for -3 dB
points per my measurements - and low distortion with reasonable signal
levels. Avoid the little xxx-1374 transformers at \$4 each - they are not
much.

73/72/00, George W5YR - the Yellow Rose of Texas
Fairview, TX 30 mi NE of Dallas in Collin county EM13qe
Amateur Radio W5YR, in the 56th year and it just keeps getting better!
QRP-L 1373 NETXQRP 6 SOC 262 COG 8 FPQRP 404 TEN-X 11771 I-LINK 11735
Icom IC-756PRO #02121 Kachina 505 DSP #91900556 Icom IC-765 #02437

David Hinerman wrote:

>
> Folks,
>
> The local Radio Shacks have let me down again, so it looks like I may need
> to attempt to make my own audio output transformer. Has anyone here ever
> tried it with ferrites? I have a couple handful of small 43-mix toroid cores.
>
> I know, transformers can be had by mail order. They can also be had by
> dismantling old transistor radios. Neither source will provide me with a
> transformer today.
>

> But if you have a "tried it and was pleasantly surprised" story, I'd love
> to hear it. (If you have an "it won't work and here's why" story, thank you
> but I'm sure I'll find out myself soon enough.)

Date: Mon, 22 Jul 2002 12:32:03 -0600 (CST)
From: Bruce Rattray <rattray@gpfn.sk.ca>
To: QRP-Canada <qrp-canada@neale.gpfn.sk.ca>,
Low Power Group <qrp-l@lehigh.edu>
Subject: [130396] A little story...or QRP fun!
Message-ID: <Pine.LNX.4.33.0207221208550.16025-100000@neale.gpfn.sk.ca>
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII

I made my 15th trip to the 68th running of the Glacier/Waterton hamfest in Montana...wx and all was good and the only downer was that my xyl Bonnie couldn't make the trip with me this time...

...I arrived at the Mountain Pine motel in East Glacier, checked in and unloaded baggage, etc....

...at one point after checking in, I was able to have my yearly chat with Terry, K7TBC, who runs the motel and got caught up on things with him...

...I was lamenting about not being able to be in the Summer fox hunt that evening for our "Raiders of the Lost RF" team (had my K2 but no HF antenna)...the K2 was there to be used in a demonstration about how to use Spectrogram...

...Terry then suggested that we look in his storage shed for materials for an antenna...Terry wondered about how much wire and I remembered that 33 feet was 40 mtrs so we just halved that, put a dipole together for 20 mtrs, got a ladder and stuck it up about 15 feet high in the pine trees and the ATU on the K2 showed a match of 1.2 to 1...Terry and I were just grinnin' all over the place and laughing about our project...I don't know about anyone else but for me, this is TRUE ham radio fun!...

...so I went in the fox hunt at 0200Z and snagged N3BJ in Virginia with no problem...but KF0FRP in Colorado was at ESP levels and off the end of the dipole...I would have moved one end of the dipole and swung the dipole around for Colorado but that would have put the coax in the path of cars at the motel...I really wanted to snag an rf fox, not a vehicle eh!?...
...so I crossed my fingers, and waited for propagation to do its thing...his signal came up a bit about 1 hour into the hunt and after a

couple of repeats, I had snagged the second fox...this is the stuff that QRP is made of!...yahooo!!...

...so having bagged two pelts and then enjoyed a great hamfest and qrp get-together, it turned out to be a 100% hamfest for me!

-ps- the only "downer" came when we hooked everything up for the Spectrogram demo, I hadn't figured on the new white tents, which popped up this year for the sessions, replacing the very old "army" dark brown tents...they're lighter, much easier to put up and take down, look real nice BUT they let in too much light for a computer monitor so that part of our session got "wiped" out...it was noted at the General Meeting of the hamfest that this was a problem which would have to be looked at seeing people giving sessions are now using audio/visual equipment (computers and data projectors) more and more...

...I had taken a flip chart pad with me and some markers so we talked about Spectrogram and used the pad for drawings...but we'll try the demo next year....(if you can, always have some sort of backup).....

...the 5th QRP Get-together is on the agenda for the 69th "running" of the Glacier/Waterton hamfest....

..72/73 - Bruce (VE5RC+VE5QRP) QRP-C#1 QRP-L#886 ARCI#9683 Zombie#272
A-1 Operator Club - 10/10# 944 - QRP Borg#1 - Whiner#10 -
- VE5QRP SOC#11 - VE5RC SOC#12 - oo#148 - K2#2032 - COG#15 -
"QRP! How sweet it is!" "I am da man wit "DAH" paddle!"

Date: Mon, 22 Jul 2002 14:19:19 -0400
From: W2AGN <w2agn@w2agn.net>
To: Low Power Amateur Radio Discussion <qrp-l@lehigh.edu>
Subject: [130397] Re: How does reflected power work
Message-ID: <3D3C1467.10271.1412D595@localhost>
MIME-version: 1.0
Content-type: text/plain; charset=US-ASCII
Content-transfer-encoding: 7BIT
Content-description: Mail message body

On 22 Jul 2002 at 12:20, Bill Coleman wrote:

> On 7/22/02 11:24 AM, Steven Weber at kd1jv@moose.ncia.net wrote:
>

> >Of course a tuner is bi-directional. In general, you can't hook it up
> >backwards due to the range of impedances it's designed to match is
> >different on the in and the out side. But it certainly passes signals and
> >matches impedances in both directions.
>
> Yup.

Only in certain cases. As George called to my attention, a T-match is
bidirectional. When I think of antenna tuner, I think of link coupled, for
Balanced line, or the "Ultimate
Transmatch for unbalanced. Neither of which are bidirectional in the sense of
being reversible
>

--

/ \ / \ / \ / \ / \ John L. Sielke
(W)(2)(A)(G)(N) <http://www.w2agn.net>
_ / _ / _ / _ / _ / ARCI, NJQRP, ARQrp,GQRP,RSGB
Ex- K3HLU, W7JEF, W4MPC, N4JS

Date: Mon, 22 Jul 2002 15:06:56 -0400
From: hamjoel@juno.com
To: fpqrp-1@mpna.com, qrp-1@lehigh.edu
Subject: [130398] CAJUN VIEW ON CONJUGATE MATCHING
Message-ID: <20020722.150848.-280755.1.hamjoel@juno.com>
MIME-Version: 1.0
Content-Type: text/plain
Content-Transfer-Encoding: 7bit

HIGH Y'ALL

High y'all, ah is a bit nervous 'bout this...however ah has decided to
enter this discussion, sort of.... please bare with my lousy spelling...
bee prepared to smile... and maybe since folks have waxed so eloquently
on the subject... it will die and geaux away...

What ah has learned from all this discussion is or closely resembles
courting.... when opposites cancel out each others undesired aspects,
conjugate matching usually results.... now ah gots ur attention...

take an aerial, antenna to u learned folks, at some some point the L and
C cancel each utter out and we have a condition called reasonance, and I
think at that time the aerial is conjugate from one end to the other...
course iffing the wind shakes or moves the antenna the point of reasonance
(and conjugate equilebrum) will change because of minute or signifigant
changes in aerial / ground capicatanace... (put that in for the technical
nit pickers)

Now folks tend to think that a dipole in this condition will show a 75

ohm resistive match if measured at the center of the aerial... now let's put 300 ohm open wire at the center of this aerial and we got a 300 / 75 ohm mismatch....so sumthin gotta give to accommodate the mismatch, right...

Now, let's say we add a tuner, match box, at the other end of the open line... and let's say that tuner, match box, can exhibit either L or C in whatever amount you desire on either side of itself.... REMEMBERING, electrons flow at one and the other end of the wire (lead in) at exactly the same instant ... so one can see how this tuner can instantly cancel out any tendency the feed line might have towards L or C.... in effect leaving you with a constant resistance while canceling out any reactance the feed line might have....

By George a CONJUGATE CONDITION EXISTS.... HOLY MACREL...
NOT EXACTLY IN TECHNICAL LANGUAGE HOWEVER I THINK WE ALL GOT THE IDEA...
SO LET'S TRY ANOTHER THREAD TO PICK UP.... OK?

KE1LA JOEL
IN MAINE
GETTING CONJUGATE
WITH HIS FLY ROD...

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Date: Mon, 22 Jul 2002 14:18:39 -0500
From: "Stuart Rohre" <rohre@arlut.utexas.edu>
To: <aa5jj@yahoo.com>
Cc: <qrp-1@lehigh.edu>
Subject: [130399] diode 1K60 cross is 1N34
Message-ID: <002d01c231b4\$95a3f5e0\$4e100a0a@rohredt2000>

That is a Japanese, 1N34 Germanium Diode number. Just go to Radio Shack and get the 1N34 assortment, and get a matched pair from that.
72,
Stuart K5KVH

Date: Mon, 22 Jul 2002 15:26:20 -0400
From: "Tom" <kf4yyd@adelphia.net>
To: "QRP-L" <qrp-1@lehigh.edu>

Subject: [130400] SW-40+ /marker generator Question
Message-ID: <00d401c231b5\$a8f2a0f0\$9865fea9@yourze8cxvr8tt>
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Hello,

After unsuccessfully trying to come up with my own enclosure for my SW+ I finally got smart and bought the one Dave Benson sells. The biggest difference (other than it now looks great cosmetically) is that instead of the 50K tuning pot I had, it came with a 100K pot which I installed.

1.) About how much of a frequency range should I have with the 100K installed?

I'm not 100% sure about what I am doing, I've only been working on this radio now for about 3 years and I still haven't made an operational test with it. I heard at least 7 loud tones when I connected the 5kHz output to the rigs input, and I not sure how equally spaced out those were on the dial.

I don't have any other receiver to test this on so I borrowed my dad's DX-398 short-wave receiver and found a tone on every 5 khz starting on the 02 frequency then the 07 etc.

2.) Does the trimmer pot on the marker generator adjust this offset back to the 0 Hz frequency?

Thanks in advance,
de Tom kf4yyd

Date: Mon, 22 Jul 2002 19:42:33 +0000
From: "Leon Heller" <leon_heller@hotmail.com>
To: WD8CIV@worldnet.att.net, qrp-1@lehigh.edu
Subject: [130401] Re: homebrew audio xfmr?
Message-ID: <F147w495In8lAgldQ5d0001dddf8@hotmail.com>
Mime-Version: 1.0
Content-Type: text/plain; format=flowed

>From: David Hinerman <WD8CIV@worldnet.att.net>
>Reply-To: WD8CIV@worldnet.att.net
>To: "Low Power Amateur Radio Discussion" <qrp-1@Lehigh.EDU>

>Subject: homebrew audio xfmr?
>Date: Mon, 22 Jul 2002 13:31:11 -0400
>
>Folks,
>
>The local Radio Shacks have let me down again, so it looks like I may need
>to attempt to make my own audio output transformer. Has anyone here ever
>tried it with ferrites? I have a couple handful of small 43-mix toroid
>cores.
>
>I know, transformers can be had by mail order. They can also be had by
>dismantling old transistor radios. Neither source will provide me with a
>transformer today.
>
>But if you have a "tried it and was pleasantly surprised" story, I'd love
>to hear it. (If you have an "it won't work and here's why" story, thank you
>but I'm sure I'll find out myself soon enough.)
>

I think that you'll need more turns than you can get on the cores to get the
needed impedance at AF. Even if you can get enough turns, you are in for a
lot of winding.

It should be feasible with a pot core, and they are easier to wind.

73, Leon

--

Leon Heller, G1HSM Tel: +44 1327 359058 Email:leon_heller@hotmail.com
My web page: http://www.geocities.com/leon_heller
My low-cost Altera Flex design kit: <http://www.leonheller.com>

Join the world s largest e-mail service with MSN Hotmail.
<http://www.hotmail.com>

Date: Mon, 22 Jul 2002 16:27:46 -0400
From: Bill Coleman <aa4lr@arrl.net>
To: <w2agn@w2agn.net>,
"Low Power Amateur Radio Discussion" <qrp-l@lehigh.edu>
Subject: [130402] Re: How does reflected power work
Message-ID: <20020722202919.ZMKY1189.imf09bis.bellsouth.net@[192.168.0.20]>
Mime-Version: 1.0
Content-Type: text/plain; charset="US-ASCII"

On 7/22/02 2:19 PM, W2AGN at w2agn@w2agn.net wrote:

>Only in certain cases. As George called to my attention, a T-match is
>bidirectional. When I think of antenna tuner, I think of link coupled, for
>Balanced line, or the "Ultimate
>Transmatch for unbalanced. Neither of which are bidirectional in the sense
>of being reversible

Sure it is, John.

Think of it this way:

```

      ---
Xmtr --- Tuner      Tuner --- dummy load
      ---
```

Where the two tuners are identical, and adjusted to the same settings.

See? The network works just as well in reverse. 100% of the power in the transmitter gets delivered to the dummy load. There's nothing in the nature of the tuner circuit that makes it non-reversible. It's just a network of reactive components.

Bill Coleman, AA4LR, PP-ASEL Mail: aa4lr@arrl.net
Quote: "Not within a thousand years will man ever fly!"
 -- Wilbur Wright, 1901

Date: Mon, 22 Jul 2002 13:36:03 -0700
From: Conrad Weiss <radman@best.com>
To: Low Power Amateur Radio Discussion <qrp-l@lehigh.edu>,
 "David Hinerman" <WD8CIV@worldnet.att.net>
Subject: [130403] RE: homebrew audio xfmr?
Message-ID: <01C23184.BA3B7CA0@209-162-49-71.thegrid.net>

Hi Dave,

While I haven't wound a "toroidal audio transformer", I've wound a few toroid experiments with fine gauge magnet wire - enough of them to say that it can be done. The audiophiles wind custom toroidal transformers all the time, yet most of what I've seen published is large form-factor stuff -- big donuts!.

The challenge: have a look at DC resistance per 1,000 feet to get a grip on what you're taking on. If you're attempting to replicate a simple 1200 ohm to 8 ohm miniature audio transformer - core material aside - I don't see a clear path around very long lengths of fine gauge wire. Consider the fact that 36 ga magnet wire has a DC resistance of 445ohms/1,000 ft - and the wire diameter is 0.005". A sheet of 20-pound Xerox paper is 0.004" thick - to give you a feel for it. IMO, 36ga is about the practical limit for "fine hand winding."

Possible? Yep. Practical? Well.... you make the call :) !

GL & let us know what you spin....:)

Best,

Conrad Weiss
NN6CW

From: David Hinerman[SMTP:WD8CIV@worldnet.att.net]
Sent: Monday, July 22, 2002 10:31 AM
To: Low Power Amateur Radio Discussion
Subject: homebrew audio xfmr?

Folks,

The local Radio Shacks have let me down again, so it looks like I may need to attempt to make my own audio output transformer. Has anyone here ever tried it with ferrites? I have a couple handful of small 43-mix toroid cores.

I know, transformers can be had by mail order. They can also be had by dismantling old transistor radios. Neither source will provide me with a transformer today.

But if you have a "tried it and was pleasantly surprised" story, I'd love to hear it. (If you have an "it won't work and here's why" story, thank you but I'm sure I'll find out myself soon enough.)

Thanks!

Dave Hinerman
WD8CIV@worldnet.att.net

Date: Mon, 22 Jul 2002 16:49:34 -0400
From: W2AGN <w2agn@w2agn.net>
To: Low Power Amateur Radio Discussion <qrp-l@lehigh.edu>
Subject: [130404] Re: How does reflected power work
Message-ID: <3D3C379E.20263.149C6B2B@localhost>
MIME-version: 1.0
Content-type: text/plain; charset=US-ASCII
Content-transfer-encoding: 7BIT
Content-description: Mail message body

On 22 Jul 2002 at 16:27, Bill Coleman wrote:

> Think of it this way:
>
> ---
> Xmtr --- Tuner Tuner --- dummy load
> ---
>
> Where the two tuners are identical, and adjusted to the same settings.
>
> See? The network works just as well in reverse. 100% of the power in the
> transmitter gets delivered to the dummy load. There's nothing in the
> nature of the tuner circuit that makes it non-reversible. It's just a
> network of reactive components.

OK, If I take my trusty old parallel tuned tuner, link coupled, and use it to tune into a 50 ohm dummy load, you're saying I can then reverse it, and it will still be in tune?

(Why I would want to do that I don't know). If I tune it into anything OTHER than a 50 ohm load, it will no longer be reversible, and after all, why would we even use it, the load was already matched?

--

/ \ / \ / \ / \ / \ John L. Sielke
(W)(2)(A)(G)(N) <http://www.w2agn.net>
 \ / \ / \ / \ / \ ARCI, NJQRP, ARQrp, GQRP, RSGB
Ex- K3HLU, W7JEF, W4MPC, N4JS

Date: Mon, 22 Jul 2002 20:31:57 +0000
From: Larry Cahoon <lejek@erols.com>

To: jsm@gulfislands.com,
"Low Power Amateur Radio Discussion" <qrp-1@lehigh.edu>
Subject: [130405] Re: Kenwood TS-50
Message-ID: <5.1.0.14.0.20020722202831.00bcb258@pop.erols.com>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"; format=flowed

I did that at first. Use a pot to adjust the voltage and you can get just about anything you want out. The catch was that as the battery got weaker and as I was out mobile keeping the thing calibrated was a pain. So I finally gave in, opened up the rig and adjusted the pot.

If you do that keep in mind that the automatic antenna tuner you get for the rig needs to see ten watts to work. I don't use such a tuner with the rig so I didn't mind. Now I'm thinking of going in and setting it at 0.5, 5, and 50 watts.

73 de Larry.....WD3P in MD
<http://www.wd3p.net/>

At 05:55 PM 7/21/2002 -0700, Steve McDonald wrote:

>There is an easier, no invasive, method of QRPing the TS-50 (and most any
>rig). Put a high value pot across a 9V battery and connect from the wiper
>arm of the pot to the ALC input jack on the back panel. By adjusting the ALC
>clamping voltage you can vary the output from zero to full power just by
>turning the pot.

Date: Mon, 22 Jul 2002 16:58:29 -0400
From: Bill Coleman <aa4lr@arrl.net>
To: <nkennedy@tcainternet.com>,
"Low Power Amateur Radio Discussion" <qrp-1@lehigh.edu>
Subject: [130406] RE: reproducible conjugate results, PART 99.5 (now even longer)
Message-ID: <20020722210002.FAIK11981.imf03bis.bellsouth.net@[192.168.0.20]>
Mime-Version: 1.0
Content-Type: text/plain; charset="US-ASCII"

On 7/20/02 11:16 PM, Nick Kennedy at nkennedy@tcainternet.com wrote:

>I'll bet you're right. Anybody ever taken their MFJ-259B and looked INTO
>the rig? I have. (Keep your hand away from the key when you do this.) As I
>recall, the FT-1000 showed pretty close to 1:1, indicating that a match
>(conjugate, if you wanna get complex) to the antenna was the design goal.

Which tells you -- WHAT? That the receiver input filters are a pretty good match for 50 ohms? Why am I not surprised?

The only way to answer the question of source impedance would be to be able to measure it with the transmitter active, since those are the components that are active when the transmitter is sourcing RF.

However, I don't think the source impedance of a transmitter is that interesting. Even if you knew what it was -- what could you do with that information?

Bill Coleman, AA4LR, PP-ASEL Mail: aa4lr@arrl.net
Quote: "Not within a thousand years will man ever fly!"
 -- Wilbur Wright, 1901

Date: Mon, 22 Jul 2002 16:10:24 -0500
From: "George, W5YR" <w5yr@att.net>
To: aa4lr@arrl.net
Cc: Low Power Amateur Radio Discussion <qrp-l@lehigh.edu>
Subject: [130407] Re: reproducible conjugate results, PART 99.5 (now even longer)
Message-ID: <3D3C74C0.41DAC0C7@att.net>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

May/June QEX article by Warren Bruene W5OLY on measuring transmitter source impedance.

73/72/00, George W5YR - the Yellow Rose of Texas
Fairview, TX 30 mi NE of Dallas in Collin county EM13qe
Amateur Radio W5YR, in the 56th year and it just keeps getting better!
QRP-L 1373 NETXQRP 6 SOC 262 COG 8 FPQRP 404 TEN-X 11771 I-LINK 11735
Icom IC-756PRO #02121 Kachina 505 DSP #91900556 Icom IC-765 #02437

Bill Coleman wrote:

> The only way to answer the question of source impedance would be to be
> able to measure it with the transmitter active, since those are the
> components that are active when the transmitter is sourcing RF.

Date: Mon, 22 Jul 2002 17:26:08 -0400
From: Bill Coleman <aa4lr@arrl.net>
To: <k5di@zianet.com>,
"Low Power Amateur Radio Discussion" <qrp-l@lehigh.edu>
Subject: [130408] Re: The Answer
Message-ID: <20020722212741.VABK1761.imf15bis.bellsouth.net@[192.168.0.20]>
Mime-Version: 1.0
Content-Type: text/plain; charset="US-ASCII"

On 7/20/02 5:56 PM, Karl F. Larsen at k5di@zianet.com wrote:

>
> Walter Maxwell took 68 pages to say what I will say here in one
>page. Consider a transmitter feeding a tuner that has a feed line hooked to
>it that hooks to the center of an antenna.
>
> The transmitter puts out 10 watts that is carried to the antenna
>feed point (assume no loss in the feed line) and we will say the feed-point
>is not equal to the feed line impedance. The antenna will absorb some of the
>10 watts and reflect the rest, say 3 watts.

Uh huh.

> The basic rule of Physics called conservation of energy assures us
>that a real 3 watts of power is reflected. This is because 10 watts arrived
>and 7 watts were absorbed in the radiation resistance of the antenna and 3
>watts are left to be accounted for. It is reflected.

Yup.

> The 3 watts travels back down the feed line to the tuner where it's
>reflected back up the feed line again in phase with the 10 watts from the
>transmitter. Conservation of energy says the 3 watts must add to the 10
>watts making 13 watts on the feed line.

Indeed. Gosh, Karl, isn't that what I've been saying all along?

> All of this forms a standing wave on the feed line that reaches
>equilibrium when 10 watts is absorbed by the antenna. So the entire 10 watts
>in this no loss example reaches the antenna over the long term. If the feed
>line has loss then less than 10 watts will reach the antenna. This loss can
>be calculated but it's complicated.

Karl, isn't this exactly what I've been telling you for a week now?

> Back to the tuner. Why does the reflected power reflect at the
>output of the tuner? Because again conservation of energy says there is
>nothing in the tuner that can absorb power except the resistance in series

>with the inductance which if the Q is high is a very low resistance, and so
>13 watts MUST LEAVE the tuner. This power is REAL and a watt-meter could
>measure it.

Yes, indeed. Isn't this what I've been saying all along, Karl? Didn't I say that if the energy weren't reflected it would have to be dissipated as heat in the tuner? Didn't I say that it doesn't head back to the transmitter? Didn't I say this all along?

> In summary, conservation of energy explains everything. This may
>not be real clear without pictures. But I know exactly what the pictures
>will look like. Junctions with power in and power out. Now I KNOW why my
>antenna works so well and how to design another. I will use low loss
>feed line because any loss has an exaggerated effect due to reflected power.
>I think 450 ohm ribbon is good enough and the new Radio Shack foam filled
>300 ohm ribbon is not as good but good enough.

Well, Karl, if you had just read what I and others had been writing to you all week long, ad infinitum, you would have known a lot sooner.

--

And, really, it would be nice to get an acknowledgement. I mean, you come on the list here and act as if you alone have figured out the answer. As if none of us knew. Yet you've stated nothing other than what you've been told here by others for a week.

The very least you could do is write "You guys were right."

Sheesh!

Bill Coleman, AA4LR, PP-ASEL Mail: aa4lr@arrl.net
Quote: "Not within a thousand years will man ever fly!"
 -- Wilbur Wright, 1901

Date: Mon, 22 Jul 2002 17:19:25 -0400
From: hamjoel@juno.com
To: fpqrp-1@mpna.com, qrp-1@lehigh.edu
Subject: [130409] STANDING WAVES
Message-ID: <20020722.171926.-272407.3.hamjoel@juno.com>
MIME-Version: 1.0
Content-Type: text/plain
Content-Transfer-Encoding: 7bit

hIGH y'all again...

curious bout standing waves... go visit a local fast moving stream or rapids.. they gots lots of standing waves... just sittin thair all day and nite...

read a book on white water canoeing or kayaking and they gonna explain why that standing wave is thair and how it comes to bee...

iffin u an't too tunnel visioned it an't hard to compare with rf in transmission lines. least wise it will give u a broader perspective.... and u gets to see an actual standing wave in action....

Keep things as simple as u can and as complicated as needs be... and don't take u-self too serious, 'less of course u like being in a group all by u-self.... :-)

ke1la joel
in maine

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Date: Mon, 22 Jul 2002 17:32:38 -0400

From: Bill Coleman <aa4lr@arrl.net>

To: <k5di@zianet.com>,

"Low Power Amateur Radio Discussion" <qrp-l@lehigh.edu>

Subject: [130410] Re: Tuner basics

Message-ID: <20020722213411.VFNC1761.imf15bis.bellsouth.net@[192.168.0.20]>

Mime-Version: 1.0

Content-Type: text/plain; charset="US-ASCII"

On 7/21/02 6:33 PM, Karl F. Larsen at k5di@zianet.com wrote:

>After discussing the tuner herein exactly an MFJ model MFJ-941C
>but valid for all similar tuners, they are bi-directional. This means
>exactly that if I tune the load so that the transmitter has a steady
>state SWR=1:1 then any power entering the tuner from the load will
>likewise be tuned to appear as power with the proper impedance to have a
>perfect SWR and the power will be absorbed by the transmitter output
>impedance. Period. End of discussion.

Hmm. Didn't you just write in a thread entitled "The Answer" that the power will NOT end up at the transmitter? That it instead will be reflected back to the load?

Gosh, Karl, you have a way of putting something so definitively when in reality you don't actually know.

How you could make such a big 180 in understanding if you were so sure when you wrote the above?

> My tuner discussions were with 2 professors of Electrical
>Engineering and we all three agreed the tuner has to work this way.
>There can not be any "special" matching that that changes the
>bi-directional characteristics of this tuner. They said there might
>exist some special tuner that isn't bi-directional but we didn't know of
>any.

Did you mention the conjugate match condition to these "professors of EE"?

> The antenna I'm using works fine on 80 meters even though it's
>physical length is only 88 feet, about. I don't know the feed point
>impedance but it's close to 450 ohms, like 300 or 600 ohms, like that
>with some reactance as well. I think the reason it works well is because
>there is not a lot of power reflected back to the transmitter.

Lack of reflected power has nothing to do with how well an antenna "works". That has to do with antenna efficiency.

A dummy load would have very little power reflected back to your transmitter, but it won't "work" very well.

> I have a MFJ Antenna Analyser and can measure the feedline
>impedance at the tuner. If I measure the length of my 450 ohm ribbon and
>learn it's velocity factor I can use the nice Smith Chart to find out
>what the antenna impedance is. The Smith Chart I print at home on my old
>HP Laserjet 2 and could easy make one for each band.

All of which will prove -- what?

Bill Coleman, AA4LR, PP-ASEL Mail: aa4lr@arrl.net
Quote: "Not within a thousand years will man ever fly!"
 -- Wilbur Wright, 1901

Date: Mon, 22 Jul 2002 17:36:20 -0400
From: Bill Coleman <aa4lr@arrl.net>
To: <w2agn@w2agn.net>,
 "Low Power Amateur Radio Discussion" <qrp-l@lehigh.edu>
Subject: [130411] Re: How does reflected power work
Message-ID: <20020722213753.0FTQ28883.imf11bis.bellsouth.net@[192.168.0.20]>

Mime-Version: 1.0
Content-Type: text/plain; charset="US-ASCII"

On 7/22/02 4:49 PM, W2AGN at w2agn@w2agn.net wrote:

>OK, If I take my trusty old parallel tuned tuner, link coupled, and use it
>to tune into a 50 ohm dummy load, you're saying I can then reverse it, and
>it will still be in tune?
>(Why I would want to do that I don't know). If I tune it into anything
>OTHER than a 50 ohm load, it will no longer be reversible, and after all,
>why would we even use it, the
>load was already matched?

I didn't say this diagram had a lot of practical application, it was just
a demonstration that the tuner network was reversible.

Actually, the setup I diagrammed might be useful for attempting to
measure tuner loss -- since you can measure the output power in the dummy
load, and divide the loss by 2 to get the energy lost in a single tuner.

Of course, the loss will vary according to the actual impedance between
the two tuners.

Bill Coleman, AA4LR, PP-ASEL Mail: aa4lr@arrl.net
Quote: "Not within a thousand years will man ever fly!"
 -- Wilbur Wright, 1901

Date: Mon, 22 Jul 2002 15:46:07 -0600 (MDT)
From: "Karl F. Larsen" <k5di@zianet.com>
To: qrp-l@lehigh.edu
Subject: [130412] Tuner measurements
Message-ID: <Pine.LNX.4.44.0207221545180.3183-1000000@Daisy.dog>
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII

I ran some tuner measurements that are quite interesting to me. Here
are the conditions for the test:

1. Radio is Kenwood TS-50 at 100 watts
2. Frequency of every measurement was 14.345 MHz

3. Tuner is my MFJ-941C

4. Antenna was my TH6DXX beam fed with RG-213 at each end and 1" Hardline most of the way.

The tuner was used and it was set up to give the transmitter a 1:1 SWR read from the tuner SWR meter. Here are some of the measurements:

Conditions	Z	SWR	R	X
Antenna	93	2.5	77	52.3 Ind
Tuner output (Radio On)	74	2.7	52	53 Cap
Tuner output (Radio off)	180	9.0	76.6	163
Tuner input Antenna on	58	1.1	58	0

For fun I tuned up the tuner with the MFJ Analyzer as the transmitter and it was a slight but necessary change to the setting of the tuner. The reading was Z=52 SWR=1.0 R=52 X=0.

Conclusions:

The radio on receive has an input impedance much like the transmitter's output impedance.

I'm convinced that the transmitter output impedance is 58 ohms. This makes it look as if there is a conjugate match at this input to the tuner.

The output port of the tuner (with the radio on) looks as if it could be a conjugate match too because the X values of the tuner and antenna are very close. The resistance values are not the same however so this may be just a random instrument error. Or, the radio receiver may not have exactly the same 58 ohms impedance as the transmitter.

These measurements sure cause more questions than answers.

Note: The Vectronics VEC-584B does not calculate the R and X values. I do that with software I wrote that gets those figures from Z and SWR. This device is accurate to 25% or so on most loads.

--

Yours Truly,

- Karl F. Larsen, (505) 524-3303 -

Date: Mon, 22 Jul 2002 17:47:46 -0400
From: W2AGN <w2agn@w2agn.net>
To: aa4lr@arrl.net,
Low Power Amateur Radio Discussion <qrp-l@lehigh.edu>
Subject: [130413] Re: How does reflected power work
Message-ID: <3D3C4542.23307.14D1B92A@localhost>
MIME-version: 1.0
Content-type: text/plain; charset=US-ASCII
Content-transfer-encoding: 7BIT
Content-description: Mail message body

On 22 Jul 2002 at 17:36, Bill Coleman wrote:

>
> I didn't say this diagram had a lot of practical application, it was just
> a demonstration that the tuner network was reversible.
>
> Actually, the setup I diagrammed might be useful for attempting to
> measure tuner loss -- since you can measure the output power in the dummy
> load, and divide the loss by 2 to get the energy lost in a single tuner.
>
> Of course, the loss will vary according to the actual impedance between
> the two tuners.

Well, just for the heck of it, I'll try it and see what happens. Too hot to go fishing anyway.

"Where'd I put that dummy load? Ah, here it is, with the ear wax removal kit....)

--

/ \ / \ / \ / \ / \ John L. Sielke
(W)(2)(A)(G)(N) <http://www.w2agn.net>
 _ / _ / _ / _ / _ / ARCI, NJQRP, ARQrp, GQRP, RSGB
Ex- K3HLU, W7JEF, W4MPC, N4JS

Date: Mon, 22 Jul 2002 17:50:40 -0400
From: W2AGN <w2agn@w2agn.net>
To: Low Power Amateur Radio Discussion <qrp-l@lehigh.edu>
Subject: [130414] Re: Tuner measurements
Message-ID: <3D3C45F0.6483.14D4613D@localhost>
MIME-version: 1.0
Content-type: text/plain; charset=US-ASCII

```
Content-transfer-encoding: 7BIT
Content-description: Mail message body
```

On 22 Jul 2002 at 15:46, Karl F. Larsen wrote:

[illegible]

Gives new meaning to the term "Close enough for government work."

— —

John L. Sielke
 (W) (2) (A) (G) (N) <http://www.w2agn.net>
 _ / _ / _ / _ / _ / ARCI, NJQRP, ARQrp, GQRP, RSGB
 Ex- K3HLU, W7JEF, W4MPC, N4JS

Date: Mon, 22 Jul 2002 15:02:35 -0700
From: "Steve McDonald" <jsm@gulfislands.com>
To: "Low Power Amateur Radio Discussion" <qrp-l@lehigh.edu>
Subject: [130415] Re: Kenwood TS-50
Message-ID: <000a01c231cb\$7f6765c0\$7011f4cc@jsm>
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Larry...if you use a large enough pot, the battery should last for years, as no current is drawn by the ALC connection.

If you do the pot adjust mod, you will notice that the pot settings all interact...that is...adjusting say, the low power pot will also change the settings established by the other two pots. Be prepared to do a lot of tweeking until you get exactly what you want on all three power settings. Before adjusting any of the pots, use a small felt marker or a dab of red nail polish to mark the factory settings, then if you can always go back to square one if things go bad.

Steve / VE7SL

```
> I did that at first. Use a pot to adjust the voltage and you can get just
```

> about anything you want out. The catch was that as the battery got weaker
> and as I was out mobile keeping the thing calibrated was a pain. So I
> finally gave in, opened up the rig and adjusted the pot.
>
> If you do that keep in mind that the automatic antenna tuner you get for
> the rig needs to see ten watts to work. I don't use such a tuner with the
> rig so I didn't mind. Now I'm thinking of going in and setting it at 0.5,
> 5, and 50 watts.
>
> 73 de Larry.....WD3P in MD
> <http://www.wd3p.net/>
>
>
> At 05:55 PM 7/21/2002 -0700, Steve McDonald wrote:
>
> >There is an easier, no invasive, method of QRPing the TS-50 (and most any
> >rig). Put a high value pot across a 9V battery and connect from the
wiper
> >arm of the pot to the ALC input jack on the back panel. By adjusting the
ALC
> >clamping voltage you can vary the output from zero to full power just by
> >turning the pot.
>

Date: Mon, 22 Jul 2002 16:57:58 -0500
From: "Brice D. Hornback" <bdh@cyberbound.net>
To: Low Power Amateur Radio Discussion <qrp-l@lehigh.edu>
Subject: [130416] FS Unbuilt Epiphyte 3 -- 75-meter SSB Transceiver Kit
Message-ID: <036901c231ca\$d7dc77a0\$6501a8c0@lwrnce01.in.comcast.net>
MIME-version: 1.0
Content-type: text/plain; charset=iso-8859-1
Content-transfer-encoding: 7BIT

Hello Everyone,

I have an unbuilt Epiphyte 3 Transceiver Kit (75-meter SSB) from NORCAL. It is still in the unopened bag with all the documentation. These are pretty rare and you don't see them listed for sale very often. Especially an unbuilt kit!

Price is \$100 shipped CONUS. Buyer agrees to pay within 5 days via U.S. Postal Money Order. Thank you.

73/72/71! de Brice KA8MAV

Date: Mon, 22 Jul 2002 18:16:03 -0400
From: "Hudson, Steve (RBI-US CMD)" <sdhudson@reedbusiness.com>
To: qrp-1@lehigh.edu
Subject: [130417] Two 624 Kits VFOs for sale
Message-ID: <A7E30DBD5928D442A7AE9EF215EEE1330185C308@BINCMDGNOREXC02>
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"

For the experimenter or homebrewer:

Among the treasures unearthed in today's cleaning out are a pair of 624 Kits "VFO-2" VFO boards. This company used to operate out of South Carolina and produced a number of very nice kits.

I built these two a good many years ago, one for 10 mHz and one for 7 mHz. I checked them out just now, and both work fine. Very stable! The VFO circuit uses two FETs (MPF 102 or 2N4416) and a 2N2222 buffer. The circuit also includes a "shift" feature, and an onboard trimmer allows setting the VFO as desired in the band of interest.

I'll include the air variable that I used to use with each one.

Note that these are just the built-up boards with a variable cap. You'll need to add your own cabinet, connectors, etc. Of course, you can fine-tune the tuning range by fiddling with the caps on the board or by putting an NP0 cap in series with the air variable to reduce tuning range. If you've homebrewed VFOs, you'll know what to do to get the range and tuning rate you desire.

Includes original documentation.

Plus shipping from 30004.

Thanks,

Steve AA4BW

401. VFO-2 VFO board built for 10 mHz. Includes single-bearing Millen air variable, panel mount. \$25.

402. VFO-2 VFO board built for 7 mHz. Includes double-bearing air variable, ceramic frame, one rotor and two stator plates, mounts on panel or via threaded feet. \$25

Date: Mon, 22 Jul 2002 17:16:53 -0500 (EST)
From: tomb@kiva.net (Thomas H. Busch)
To: qrp-1@lehigh.edu
Subject: [130418] RE: How does reflected power work?
Message-ID: <20020722221653.43B2234F11@mayhem.kiva.net>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

A tuner is reversible in that it is a simple tuned-circuit, but it is not acting as a filter.

The antenna and feedline looking out of the tuner's "Antenna" connector do NOT look like the transmitter from the tuner's "Transmitter" connector.

Look at it with a Smith chart. Take an antenna with an arbitrary impedance, $R + jI$, and match it with a tuner to your transmitter's $50 + j0$. Now reverse that arrangement; make the antenna the "generator" and the transmitter the "load." DO NOT change settings on the tuner!!!. You will find that the generator (antenna) sees an impedance of $R - jI$, as seen from the other side. A complex conjugate (where did I see that phrase before?)

All is forgiven in a purely resistive system. If your load is 200 ohms, and you tune it, the complex conjugate of $200 + j0$ is still $200 + j0$.

A tuner is bidirectional, but the mathematical transformation is not necessarily reversible.

TomB

-----Original Message-----

From: owner-qrp-1@Lehigh.EDU [mailto:owner-qrp-1@Lehigh.EDU] On Behalf Of W2AGN
Sent: Monday, July 22, 2002 3:50 PM
To: Low Power Amateur Radio Discussion
Subject: Re: How does reflected power work

On 22 Jul 2002 at 16:27, Bill Coleman wrote:

> Think of it this way:

>

>

> Xmitr --- Tuner Tuner --- dummy load

> ---
>
> Where the two tuners are identical, and adjusted to the same settings.
>
> See? The network works just as well in reverse. 100% of the power in the
> transmitter gets delivered to the dummy load. There's nothing in the
> nature of the tuner circuit that makes it non-reversible. It's just a
> network of reactive components.

OK, If I take my trusty old parallel tuned tuner, link coupled, and use it to tune into a 50 ohm dummy load, you're saying I can then reverse it, and it will still be in tune?

(Why I would want to do that I don't know). If I tune it into anything OTHER

than a 50 ohm load, it will no longer be reversible, and after all, why would we even use it, the load was already matched?

Date: Mon, 22 Jul 2002 17:22:09 -0500
From: Pat Cain <pcain@ix.netcom.com>
To: qrp-l@lehigh.edu
Subject: [130419] K2 Logging Program for the Palm
Message-ID: <5.1.1.6.0.20020722172112.02463520@mail.mchsi.com>
Mime-Version: 1.0
Content-Type: text/plain; charset="iso-8859-1"; format=flowed
Content-Transfer-Encoding: quoted-printable

I have posted my K2 Logging program for the Palm on a web site at=
<<http://www.qsl.net/k0pc>>.

This program is intended for contest operations and interfaces the Palm to=
the K2 via the KI02 controller. It sends CW and tracks band/mode by talking=
to the K2.

This is version 1.0 and I hope to have a "New and Improved" version=
available in the next few weeks. Take a look and let me know what you think.

73,
Pat K=D8PC

Date: Tue, 23 Jul 2002 8:30:01 +1000
From: <glentorr@ozemail.com.au>
To: "Low Power Amateur Radio Discussion" <qrp-l@lehigh.edu>
Subject: [130420] Rock-Mites Down Under
Message-ID: <20020722223001.BTE013407.mta06.mail.mel.aone.net.au@[127.0.0.1]>
MIME-Version: 1.0
Content-Type: text/plain; charset=ISO-8859-1
Content-Transfer-Encoding: 7bit

Howdy All,

Is there any one else in VK or ZL who has ordered a RockMite and would like to correspond about the beast.

Cheers

Glen VK1FB

This message was sent through MyMail <http://www.mymail.com.au>

Date: Mon, 22 Jul 2002 17:40:23 -0500
From: "Brice D. Hornback" <bdh@cyberbound.net>
To: Low Power Amateur Radio Discussion <qrp-l@lehigh.edu>
Subject: [130421] SOLD: Unbuilt Epiphyte 3 -- 75-meter SSB Transceiver Kit
Message-ID: <03b401c231d0\$c441cb40\$6501a8c0@lwrnce01.in.comcast.net>
MIME-version: 1.0
Content-type: text/plain; charset=iso-8859-1
Content-transfer-encoding: 7BIT

The Epiphyte 3 kit has been sold. Thank you.

73/72/71! de Brice KA8MAV

----- Original Message -----

From: "Brice D. Hornback" <bdh@cyberbound.net>
To: "Low Power Amateur Radio Discussion" <qrp-l@Lehigh.EDU>
Sent: Monday, July 22, 2002 4:57 PM
Subject: FS Unbuilt Epiphyte 3 -- 75-meter SSB Transceiver Kit

> Hello Everyone,

>

> I have an unbuilt Epiphyte 3 Transceiver Kit (75-meter SSB) from NORCAL.

It

> is still in the unopened bag with all the documentation. These are pretty
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> unbuilt kit!

>

> Price is \$100 shipped CONUS. Buyer agrees to pay within 5 days via U.S.

> Postal Money Order. Thank you.

>

> 73/72/71! de Brice KA8MAV

>

End of QRP-L Digest 2624
